THE
MODERN TEACHER

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THE MODERN TEACHER

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ESSAYS ON EDUCATIONAL AIMS AND METHODS

EDITED BY

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WITH AN INTRODUCTION BY

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METHUEN & CO. LTD.
36 ESSEX STREET W.C.
LONDON

First Published in 1921

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EDITORIAL NOTE

THE work of the Editor has not been laborious. It consisted mainly in selecting the subjects to be dealt with, in inviting writers to deal with them, and in suggesting a general mode of treatment. This was to describe the best current practice in teaching the particular subject and to indicate possible improvements. If the suggestion has been interpreted more freely in some cases than in others, and if one or two of the Essays may seem somewhat utopian, they are all based on ripe experience as well as strong conviction, and as a whole they do both represent the best British practice and point the way of progress.

The limits of space precluded Art, Music, and one or two other subjects with a claim to appear in the list of contents. English has two Essays devoted to it, as a sign of its capital importance, not yet always recognized in the curricula of English schools. Citizenship is a new subject in our school time-tables; but in America, under the name of "Civics," it has already an established place.

The training of character eludes the Binet-Simon or any similar test, yet no volume on teaching can be considered complete that does not deal with it. It is given in different types of schools in different ways; but the underlying principles that are here presented are of general application. Happy the school where they inspire traditions and ideals, or poems like "Clifton Chapel," potent to mould the adolescent life!

A. W. B.

March, 1921.

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INTRODUCTION

By Sir W. HENRY HADOW, M.A., D.Mus., C.B.E.

ONE of the best auguries for the progress of Education in this country is the freedom with which its methods and ideals are now being canvassed. A generation ago, educational reformers were few in number and were held in little regard: their influence was mainly confined to their own respective circles, and, for the rest, our Schools and Colleges—St. Edward's and St. Ignavia's, as D'Arcy Thompson called them—went their habitual way, contented to range within narrow limits and to acquiesce in an established and comfortable routine. But, during recent years, the changes have been rapid and continuous; the outlook of educational theory has been vastly widened; in the domain of practice there are now few traces of routine and almost none of acquiescence.

This growth of independent opinion is well exemplified by the volume of essays here presented. The writers are men of high repute, not only masters but skilled exponents of the subjects with which they deal; and it is interesting to observe from what diverse angles they bring their judgments to bear upon the central theme. "What," asks the reader, "is the chief aim of Education?" "The training," says one, "of good citizens." "The service of the community," says another, "through the extension of scientific knowledge." "The quickening of the spirit," says a third, "through the emotions and the sense of beauty." It is the same with regard to method. One writer doubts whether any formal instruction is desirable ; the teacher's function, he holds, is to indicate a path which the pupils may tread for themselves or from which they may take their point of departure : "This is my way, where is thine? As for *the* way, it does not exist." Another occupies a considerable part of his essay with direct practical suggestions as to the manner in which instruction can most profitably be imparted. Yet these differences, and many more which could be enumerated, depend rather on balance and proportion than on any real incompatibility of purpose. They are inherent partly in the nature of the subject studied, partly in the temperament of the particular teacher, and, while they stand far distant on the circumference, they all converge on a solid nucleus of agreement.

Educat nutrix, says Varro, from whose sentence our name of Education is derived. All teaching is nurture, and its function is to supply the growing mind with its appropriate food and exercise. The two aspects are, no doubt, inseparable : there is little value in a starved gymnastic, still less in mere passive assimilation. Yet it is of the first importance to recognize that, while both aspects are present in all education, they are operative in varying degree and measure according to the special quality of the matter in hand. Science needs impulse and imagination, but unless it have sufficient knowledge they will only lead it astray. Art requires knowledge, but if it have this alone it will be choked by its own erudition. Nor is this less true in our civic and religious life. The contrast which Browning draws between unlearned love and loveless learning is fundamental, and, though ignorant loyalty is far higher than destructive criticism—for destructive criticism is never more, at the best, than a dangerous half-truth—yet it forsakes the sand for the everlasting rock when it has learned to give a reason for the faith that is in it. The supreme reality of the Universe is the culmination at once of truth, beauty, and goodness, and it is through all these avenues alike that our way of approach is made plain.

In the first essay, the approach through beauty is eloquently proclaimed by Mr. Greening Lamborn. "The cause of our sickness," he says, "is the over-emphasis, alike in industry and education, of the material and intellectual aspects of man, and the resulting neglect of his emotional and spiritual life." The object of education is the fullness of life, and "of all studies literature is the most life-giving". Further, in literature, the first subject of study should be form—"the æsthetic fact," as Croce called it; paraphrase is destruction, and even the inquiry into precise significance should be at least deferred until the emotions have been stimulated through the magic of words—through their power by sound or colour or association of suggesting ideas beyond the range of their context. And so Mr. Lamborn begins with a phrase of Beethoven, treated as poetry in a foreign tongue, and continues with "a stanza of the 'Marseillaise' or a passage from the 'Iliad' or the 'Æneid,' or Jean Richepin's song or a lyric of Catullus"; even passages from our great English verbal melodists—"Swinburne, Milton, Raleigh, Ruskin"—should be read to children "for the beauty of their sound alone". Later on will come discussion of the value and significance of the words chosen—why Coleridge made the sails of his vessel "sigh like sedge," why "barren sky" is better than "western sky" in Jean Ingelow's line on the sunset. But the appeal throughout is æsthetic, not logical; and its aim is not to inform but to delight.

This is no place to criticize Mr. Lamborn's doctrine, or to test it by the famous sentence of Sir Henry Taylor that in all great literature "the intellect should be present in its strength as well as in its ardours". Enough to say that he has drawn attention to an aspect of literary education which has been far too much neglected, that his method is admirably calculated to arouse interest, and that he has illustrated it by his own remarkable success as a teacher. It follows to consider how far this method, devised in the first instance for readers, can help a boy to write, to handle his own language, and to express clearly and fully his own ideas. Mr. Guy Kendall, who treats of English Composition, doubts whether any but the best boys "pick up their English from reading"; for the average he would prescribe systematic teaching, or at least systematic criticism. First, in the earlier years, should come oral training and a little elementary grammar—"you cannot," as he justly says, "teach a boy the right use of adjectives if he does not know what an adjective is"—then brief descriptions of objects[1] or of personal experiences, and so by degrees to the essay on a wider or more abstract theme. A striking suggestion is that, as a boy, in the time at his disposal, cannot cover adequately any topic of wide range, he should be encouraged to treat his essay as a fragment—a supposed chapter in a larger composition. Mr. Kendall strongly advocates the practice of English verse to all boys who have any talent for it—in this he is corroborated by the remarkable volume of School Poems recently edited by Mr. Masefield—and with equal conviction maintains that "no school should be above the task of teaching a boy to write a competent commercial letter"; a thesis which it would be interesting to hear him discuss with Mr. Lamborn. He also lays great stress on the value of school literary societies and the school magazine.

Next in order comes the study of foreign languages, Ancient and Modern. In dealing with these, Professor Græme Ritchie and the Master of Dulwich adopt somewhat the same standpoint, and are confronted with the same general problems. In language, for instance, a serious and unnecessary difficulty has been caused by the old practice of teaching "examination-grammar," which was largely concerned with exceptional forms and usages, and which was of no more value than Gray's "Memoria Technica". It cannot be too strongly maintained that in the earlier stages grammar should be taught so far as a boy needs it for translating his texts and for writing his compositions. To teach him that there is a French word *travail* which makes its plural *travails* is merely to confuse him; to set him learning the principal parts of *reputesco*, which occurs once in Tertullian, is to waste his time. Yet questions not less absurd than these were set until recent years and were succeeded for a time by a reaction against all grammatical teaching which is equally perilous on the other side. Again, in the teaching of a foreign literature there are special problems concerned with the use of the original texts for reading and translation. Anthologies are, within their limits, most serviceable; but he who trusts to them alone has been to a feast of learning and stolen away the scraps. And where a continuous book is offered—a play of Molière or a speech of Cicero—there is the difficulty of maintaining an interest which is almost inevitably broken between lesson and lesson. Much can be done by such editions as Mr. Livingstone's "Cæsar," where the salient passages are given in Latin and joined by connecting-links of English narrative; but even with these the best solution is a series of preliminary lectures, not for one or two perfunctory hours but for a sufficient number of weeks, in which the subject of the book is fully explained and related to its literary or historical background. It has been attested by experience that the time so occupied is abundantly recovered by more rapid progress when the text is actually begun, and that the whole quality of the work is improved by a heightened interest and a more intelligent appreciation. And in this way the studies of language and of literature, apart from their intrinsic value, can be made conducive to the understanding of foreign peoples and to the parts that they have played in civilization as a whole.

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[1] Mr. Kendall relates that out of a class of boys who were set to describe a windmill a considerable number made no attempt at description, but wrote lurid stories of which the windmill was the scene. There is a good deal of significance in this.

Mr. Lucy's paper bears striking testimony to the progress that has been made during recent years in the teaching of Mathematics. He shows that even up to the age of sixteen the course may include not only Arithmetic, Algebra, and Geometry, but numerical Trigonometry and the elements of the Calculus; he clears away unnecessary distinctions and unnecessary complications; and he pleads for a study of the subject which should not leave it suspended in the upper ether of abstraction, but should bring it into touch with human life and common sense. Lewis Carrol, in the days of his tutorship at Christ Church, used to set a proportion sum for passmen which ran, "If a length of wall can be built by three men in ten days, how long would it take thirty thousand?" The unthinking pupil worked it out to something under a minute and a half, and was then met by the rejoinder, "Don't you see that your wall would go up like a flash of lightning and that thousands of your men would not get within a mile of it?" Those of us who remember the days of continuous fractions, of race-problems in which the competitors ran opposite ways, and of imaginary quantities which bore no relation to human experience, have much reason to be thankful to Mr. Lucy and to the teachers whom he represents.

After Mathematics the Natural Sciences, which Mr. Sanderson treats in the true Baconian spirit. First comes a careful and reasoned statement of their importance in the progress and welfare of mankind, the discovery of *nova axiomata*, the invention of *nova opera*, the *vinum ex infinitis confectum uvis;* then a recommendation of the inductive order, facts before theories and applications before principles, and finally a sketch of an ideal school in which science should form the basis of instruction—a Solomon's house with its laboratories, its workshops, its staff of teachers, interconnected on the one hand with the elementary school, and with the Universities—and even one central University—on the other. It is a fine conception, boldly and masterfully expressed, and its object is well stated in the sentence that "the duty of Education is to teach the average man the glory of his work and trade". This is not the whole duty of Education; there are other aspects with which Mr. Sanderson does not deal; but it states clearly and impressively the aim which he has in view.

Geography and History are so closely inter-related that the next two essays may well be taken together. Indeed, Professor Fleure begins by defining his subject as "the educational instrument which is most specially concerned with the development of the modern world": a definition which he afterwards advisedly narrows by saying that its function is "to picture the setting of the human drama". A similar claim is put forward by Professor Hearnshaw, who says, quaintly enough, that a school or college would be adequately staffed "entirely by Professors of History," on the ground that there is no subject which is outside their purview. This is an enormous advance on the old narrow histories and geographies of bygone text-books, and rightly interpreted it represents a not unattainable ideal. Each subject is in its way encyclopædic: it borrows from many sciences and repays by the cultivation of its own domain. Vitruvius said that a learned man must know the principles of all arts and the practice of one: in like manner we may say that the true historian, the true geographer, must take the results of many sciences and use them to illustrate his own method and fulfil his own purpose. It does not in the least follow that either should be superficial or discursive. Professor Fleure would concentrate his teaching on maps—regional, climatic, orographical, and the like—and would draw from them a body of truth which cannot be evaded by "examination skill, or cramming, or glitter of phrases". Professor Hearnshaw, who begins with the outlines of World History and ends with a concentrated study of the nineteenth century, tells us that the whole core and centre of his subject is political history, the growth and development of human institutions. To both alike the proper study of mankind is man, the one as affected by natural environment, the other as advancing, through tradition or revolt, towards the power which shall mould environment to its own purpose.

So History passes into Citizenship, which Dr. Boyd well defines as "the right ordering of our several loyalties". Here indeed the impulse of loyalty is the material on which the teacher must work through the gradually widening circles of home and school, of native city or region, of the motherland with its mutual claim of affection and service. The work must be delicate, gradual, tentative, for it deals with instincts which are often abashed by shyness or checked by undue insistence. In early years there should be little or no direct instruction, rather the creation of an atmosphere through history, and literature, and the encouragement of unselfishness. Little by little the pupil comes to learn that the State is not an external machine to which he may be indifferent, still less a tyrannical autocrat with no sanction but force; that it is rather the fullest expression of his communal self, and that in obeying its legitimate injunctions he is fulfilling his own nature. And here again we find the interaction between impulse and knowledge. Disloyalty is usually founded on suspicion, suspicion on ignorance. "In the mountain mists," says the Turkish apologue, "I saw a figure; first I thought that it was a wild beast; it came nearer, and I saw that it was a man; nearer still, and I saw that it was my brother." The relation between man and State is not material but moral, and morality is a widening circle whose radius is knowledge and whose centre is love.

Last then, and as climax of all, comes the training of religion, in which knowledge and love are unified and transfigured in the higher synthesis of faith. No commendation is needed of the breadth, the wisdom, the charity with which this subject is treated in the closing essay by one of the greatest masters of education in the present age. As applied to school life it has special difficulties—physical, psychological, ethical—which need the closest attention and the most sympathetic control. "Almost every boy," says the Bishop of Manchester, "is a natural mystic;" yet the very qualities which are here implied bring with them special temptations and need special guidance and supervision. The sensitiveness of boyhood is easily startled; its responsiveness to environment is easily misunderstood; the "tribal morality," which is as supreme within limits as it is lax beyond them, may lead to apparent inconsistencies of conduct which are hard to reconcile. Yet all these difficulties may be solved by the teacher who has character and personality, who understands the boy's mind, and who remembers to good purposes his own boyhood. The sense of hero-worship, crude and inarticulate but none the less real, is the basis of all discipline, and, when once that is established, the higher the ideal the more ready will be the response. Let the house-master discriminate between breaches of rule, let the preacher in School Chapel refrain from "taking down," let the form-master maintain without obtrusion his belief in the divine purpose which runs through human life: these are the injunctions which Bishop Temple lays upon us and which every reader will assuredly confirm.

The teachers of the present day are the trustees of the future. It is in their hands to mould the generation which will carry to its next stage the advance of human civilization. The responsibility is great; it needs all that we can offer of patient study, of impetus, of controlling wisdom. But if the task is hard the reward is certain. No stroke of honest work will fail of its effect, no impulse of sympathy and generosity will lack its ultimate response. If disappointments come, they are temporary; if problems appear insoluble, they are only waiting for the key-word; if the harvest is not for us to reap, we may find our compensation, and more than our compensation, in the consciousness that we are sowing the seed, and that if it be well sown it will come at last to fruition.

THE MODERN TEACHER

THE TEACHING OF ENGLISH LITERATURE

By E. A. Greening Lamborn

"That ye might have Life, and that ye might have it more abundantly"

SOME time ago a Government inspector, retiring after many years of activity in the schools, wrote a book on "What Might Have Been". He began it with the question: What is all this doing for the child? And he declared this to be a question which few teachers ever asked, and which fewer still could satisfactorily answer. No worse reproach could be brought against the school inspectors than is implied in this criticism of the teachers. For the state of mind of most teachers since inspection was substituted for examination may be best expressed in the mute appeal: "Sir, we know not whither thou goest, and how shall we know the way?" There is the mistake the teachers have made: instead of asking what have we to do for the child? they have asked what have we to do for the inspector? Now that the Board of Education is so greatly widening its sphere of influence, it is necessary to state plainly that the former question alone concerns us, and that solicitude for the other will inevitably produce in the secondary schools the mischief it has caused in the primary.[1]

The quotation at the head of this chapter sums up in a phrase the essential purpose of all education—physical, technical, or intellectual; elementary or advanced; utilitarian or liberal: for even an industrial training is designed to secure the means of life. But the special reference, in the text as in the chapter, is to that life of the spirit which is the supreme characteristic of man. We are concerned with literature as the realm in which alone the true life of man is lived. When Dr. Johnson said that there was less difference between the living and the dead than between the lettered and the illiterate, he was speaking no more than the truth, however startling it may sound.

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[1] Some idea of which may be gathered from an article by an inspector in the current number of "The Schoolmistress," 23 September, 1920. "They are afraid to do this or that lest they should offend. . . . The rules governing every movement and step of a teacher in her work are supposed to be so strict . . . that the fear of doing the least wrong preys upon the mind. . . . I frequently have had to pledge my word of honour in the attempt to convince a teacher that the Board would not demand her head for some trifling mistake. . . . Yet I have every now and then a poor creature begging me to save her from losing her certificate,"

Life in the material world is but mechanical existence shared with the animals; in the world of pure thought it is a vain attempt to find reason and purpose in an unintelligible chaos of stupidity and injustice, which ends in the paralysis of Hamlet, or the frozen life-force of Rodin's "Le Penseur," or the insanity of Dürer's "Melancholia".

"Is there no life but these alone,
Madman or slave, must man be one?"

And the answer is that the mind is its own place; man, essentially, is a dreamer, and his true life is in a world of his own creation, where by the exercise of his characteristic power to "submit the shews of things to the desires of the mind" he remoulds them nearer to his heart's desire so that he is no longer a bewildered spectator of a monstrous confusion but a maker and shaper of an ordered and significant cosmos

"In which the heavy and the weary weight
Of all this unintelligible world
Is lifted"

from his spirit.

"Where there is no vision the people perish": men descend again to the animal level when they lose the perception which raises them above it—that the material is not the real.

Human progress depends on the growth of this perception: Scientific "advance" represents progress only so far as it raises man above materialism, first by giving him power over nature, and so freeing his mind from the obsession of his material needs; and secondly by confirming his intuitive belief that matter is not an ultimate reality. Progress means "the breaking of the prison house of matter, that the spirit may be set free to create its own world".[1]

That, conscious or subconscious, is the aspiration which is behind the growing demand of our people for more leisure and a larger share in the wealth produced by the national industry. Mr. Barnes has warned us that "the great danger of the present day is to regard the Labour question as a bread and butter question. It is nothing of the kind: it is an educational question; it is a religious question, a question of a man's proper place in life, and not only as a wage-earner." The worst mistake we could commit would be to continue to regard education as a "bread and butter question"; most of our present discontents and difficulties are the results, direct or indirect, of the commercialized system of elementary instruction which grew out of Victorian industrialism. To carry conviction here is so important for my present purpose that I would ask the reader at this point to take down "Hard Times" and the "History of Mr. Polly" and read the first chapter in those books of revelation. . . .

The hard facts demanded by Mr. Gradgrind have produced the hard-headed business men admired by the "Morning Post"; but they have also produced hard hearts unmoved by any but selfish motives. And the "practical" education which almost killed the poet in Mr. Polly shows its results in those very practical methods of direct action which are endangering the foundations of civilized society. That must inevitably be the outcome of a system of education which appeals for its motive force to a desire for material advantage; and its effects on the individual will be equally fatal—discontent; for material wealth satisfies no one; dislike of the toil whose only recompense is material gain; the restless unhappiness that is the unfailing retribution for selfish gratification. But the fruits of true education, which is spiritual, are those of the spirit—love, without which men cannot bear to be together; joy in the effort to attain truth and beauty; peace, in the possession of those things which, as the world cannot give them, neither can it take them away.

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[1] Tagore's "Personality".

The only true education is spiritual, for "man is a spirit"; the system by which teachers, driven by inspectors and examiners, drove knowledge into children for utilitarian purposes is as much opposed to psychology as it is to religion; it meant "for most people, a niggardly dole of not very accurate information; something to be swallowed by the beginner in the art of living, whether he liked it or not; and which had been chewed and digested over and over again, by people who didn't care about it in order to serve out to other people who didn't want it".

But, as Ruskin reminded us, you do not educate a man by telling him what he knew not, but by making him what he was not; the only education that makes a man a better workman is that which endeavours to make the workman a better man.

Judged even on utilitarian grounds, the system by which the child exchanged a wonder-world of experience for a bagful of information, was robbed of the earth to be taught geography and of romance to be crammed with historical facts, has utterly failed to make life a better thing for anyone.

The wealth of the state is not yet the prosperity of the people; for wealth is only wealth when it has been transformed into happy human life—"there is no wealth but life, life including all its powers of love, of joy, and of admiration".

Our mistake has been to forget the *essential* powers of man in our effort to develop those lower faculties which in the struggle for animal existence have given him the pre-eminence over his brother brutes, in order that he may gain material advantage in the struggle with his own species.[1] We have boasted of our material progress as if physical gratification were the highest good; and we have glorified intellectual achievement as if reason were the noblest faculty of man. Christianity, which might have saved us from the error by insisting on the question "What shall it profit a man if he gain the whole world and lose his higher self?" was rationalized almost at the outset; and though the poets have never lacked inspiration to assure us "we live by admiration, hope and love" and that "the world of dreams is better far," it remained for the psychologists of our own day to discover that if the poets and prophets are dreamers and visionaries it is because the real life of man is lived in that world of the spirit which he himself creates, in "the region where we are freed from all necessity—above the needs both of body and mind, above the expedient and useful".

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[1] And our profiteers to-day justify the result as "the survival of the fittest"!

I know very well how unpractical all this will sound to our modern Gradgrinds. I have some practical methods to suggest later on, but I believe with Jean Paul that the end must be known before the means and that aims are even more important than methods. Of methods Nietzsche has the wise word: "Here is now my way; where is thine? As for *the* way—it doth not exist."

There are disquieting signs that much of the present interest in education implies a demand for more efficient methods rather than a change in ideals. A friend of mine lately sent me the scheme of instruction drawn up by a great firm for the Continuation Schools they proposed to set up under the new Act. It provided for instruction in arithmetic, mechanics, chemistry, business correspondence, commercial French, and other subjects designed to make an employé a more profitable servant; but there was not a word to show that the firm regarded their young people as developing human beings; and in returning the scheme to my friend I wrote at the foot of it—

"Come to school and you shall learn
Extra bobs a week to earn—
(One for you and two for me)."
An excellent scheme—for Bounderby.

The benefits of industrial efficiency are desirable enough, but it is a profound mistake to suppose that they can be secured by an education designed directly to secure them. To suppose so is, as Lord Robert Cecil recently said, to regard men as animated machinery, specialized for certain limited tasks. The great lesson we have to learn in regard to industrial and in regard to political and social problems is that taught by the older universities, that only the completely developed individual can be completely efficient in any capacity. The under-bred employer becomes the over-reaching profiteer, and the over-specialized workman becomes the class-conscious syndicalist. The highest function of education in this generation is to act as an antidote to the evils of industrialism. And the greatest of those evils is the sacrifice of personality inevitably demanded of the workman by the extreme specialization of modern production. Industrialism, like slavery and the feudal system, may have been a necessary stage towards the civilization of man; but we make a profound mistake when we speak as if civilization already existed; for "civilization is the humanization of man in society: man is civilized when the whole body of society comes to live with a life worthy to be called human," which cannot yet be said of great masses of our people. Indeed, though the material standard of life has probably been raised, it is beyond all doubt that human life in our day is gloomier and less interesting than it was to our forefathers—

> "For most men in a brazen prison live
> Where in the sun's hot eye,
> With heads bent o'er their toil they languidly
> Their lives to some unmeaning taskwork give,
> Dreaming of naught beyond their prison wall;
> And as year after year
> Fresh products of their barren labour fall
> From their tired hands, and rest
> Never yet comes more near,
> Gloom settles slowly down over the breast;
> And as they try to stem
> The waves of mournful thought by which they are pressed,
> Death in their prison reaches them
> Unfreed, having seen nothing, still unblest."

The cause of our sickness is the over-emphasis, alike in industry and education, of the material and intellectual aspects of man and the resulting neglect of his emotional and spiritual life. Industrialism has taken art out of our lives, and our people are sick in their souls for the need of beauty.

The great creative impulse which gives man his affinity with his Maker, which makes him a creator instead of only a creature, is stultified and distorted, so that art, "the expression of the workman's joy in his labour," has become almost a meaningless term among us; and the term artist, which means the human being in all of us, has been prostituted to the music-hall stage. The vital problem we have to solve is how to make life a richer and more beautiful thing for the mass of men—which means, how to bring back art into the workers' lives.

It is not possible, even if it were desirable, to put back the clock to the time when the ordinary workman could find scope for the expression of his higher self in the employment by which he got the means to satisfy the lower. All art is the expression of individuality, of a personal taste, and it is irreconcilable with machine-made productions. Unless we abandon machinery, which is surely a vain dream, we cannot bring back art into industry; only for a few fortunate people is the work itself the wage. But—

> "Because a man has a shop to mind
>   In time and place, since flesh must live,
> Need spirit lack all life behind,
>   All stray thoughts, fancies fugitive,
>   All joy except what shop can give?"

The answer to Browning's question is that "shop" will soon become a rapidly-diminishing factor in the workman's existence. A few hours daily of necessary drudgery at more or less mechanical tasks, undertaken as a duty and gradually reduced as progress in the means of production outstrips physical needs, and ample leisure afterwards for the *real* life—this seems to be the coming stage in the evolution of human society.

And that is where we come in. For me the chief end of education is the preparation for the right use of leisure by the revelation of the sources of intellectual and spiritual enjoyment as the means of self-development. The first and greatest of these is literature, the record of "the best that has been thought and said in the world"; to reveal its nature and its place in complete living is the most important work in which any man can be engaged.

The only worthy answer to Mr. Holmes's question, in regard to the teaching of any subject, is "more abundant life". That is also the answer to the more startling and stimulating inquiry of Mr. G. K. Chesterton, "What's the good of begetting a man until you have decided: What's the good of *being* a man?"

We are still, to some extent, dwelling in the shadow of Puritanism; we refuse to say Yea to life; we half distrust it and ourselves; we repeat, until we almost believe, that

"We are fallen creatures here
Where sin and sorrow daily come,"

and that a life of abnegation in this world will be rewarded by one of enjoyment in the next.

All this is but a morbid perversion of Christianity:

"This world's no blot for us nor blank;
It means intensely, and means good;"

and, as the same poet reminds us, our hope for the next world depends on our development of personality in this—

"The soul doubtless is immortal—where a soul can be discerned;
Yours, for instance: you know physics, something of geology,
Mathematics are your pastime; souls shall rise in their degree;
Butterflies may dread extinction; you'll not die, it cannot be."

For "studies perfect nature," which means in modern English, develop the complete human being; and that development of all our possibilities is the meaning of life and of education, which rightly considered is life-long.

We need to get back to the standpoint of the Greeks and to realize with them—

"How good is man's life, the mere living, how fit to employ
The mind and the soul and the senses for ever in joy."

The Greek spirit has never found nobler utterance than in the magnificent words that Tennyson puts into the mouth of Ulysses as he looks back over his varied experience and, though full of years, refuses either to rest or to rust, but, like Carlyle, who used to say that he had all eternity to rest in, but only a few years to live, cries:—

"I will drink
Life to the lees: all times have I enjoyed
Greatly; have suffered greatly both with those
That loved me, and alone . . . I am become a name
For always roving with a hungry heart;
I am a part of all that I have met,
Yet all experience is an arch where through
Gleams that untravelled world whose margin fades

> For ever and for ever when I move.
> How dull it is to pause, to make an end,
> To rust unburnished, not to shine in use—
> As tho' to breathe were life! Life piled on life
> Were all too little; and of one to me
> Little remains. Yet every hour is saved
> From that eternal silence: something more
> A bringer of new things."

Every word of that speech is a stimulus to life and an inspiration to those of us who have to teach others to live.

All studies, then, are valuable as they are a means of life. Through history we multiply our existence in time and through geography in space, by sharing in imagination the lives of men in other ages and other lands; through science we win sympathetic insight into the existence of the animal creation and even of the inorganic world.

But of all studies literature is the most life-giving. That is indeed an inadequate expression: literature is the power by which all studies become life-giving. For it is only when the facts of history or science are presented as literature that they become a means of life.[1]

To say that literature is the most important thing in life may sound an exaggeration to many: the truth is that only through literature does anything really live at all. It is in the great art creations that we come nearest to reality, in such persons as Falstaff, Cleopatra, Mrs. Gamp, Othello, Becky Sharp, Parson Adams, Don Quixote, Tess of the D'Urbervilles, Micawber, Crusoe, the Poysers . . .

They are the real, living, persons in this world of shadows. When were Dickens's parents most alive—when they gave him mortal life, or when they received from him immortal existence as Mr. Micawber and Mrs. Nickleby? Which is the real Elizabeth for us—she of the school books or of Kenilworth? Who in history is as much alive as Falstaff, who in mere historical fact never existed? Whose are the spirits which, if we could summon them from the vasty deep of time, we would wish to appear before us? Not those that inhabited material flesh but those who, like the gods, are immortal because they had no mortal birth; not the actual men and women of documents and epitaphs but the great art-forms which are as much facts to us as the bodies of the men around us—nay, far more; for they have far more *life* in them, they are infinitely more alive than we who walk before our own funeral processions, most of us, from the end of adolescence to the grave; sleep-walkers without the joy of dreams.

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[1] Cf. p. 33.

Literæ janua vitæ. Literature is the means by which we enter the world of true personality.

And literature is not merely the world of real persons but of real things. Lance's dog and Bill Sykes's and Rab have more life in them than any for which we pay a licence. Wordsworth's daffodils are not the yellow flowers that blow to fade by Ullswater; and Torquilstone Castle is a reality that will outlast Buckingham Palace.

To inquire how "the miracle of genius is wrought, that the imaginations of one mind should become the highest realities of another," is to venture upon an unsolved mystery though one that psychology has already some hope of explaining. I believe the solution will be found in the power of art to affect the whole personality of us, to stimulate the subconscious as well as the conscious mind, to awake the emotions as well as engage the intellect and to appeal to the senses as well as to the reason. It was said of Shakespeare by one of his earliest critics that when he describes a thing you more than see it; you feel it too. It is the same with "actual" things: the most real persons to us are those that engage the most of our personalities, those nearest and dearest that affect us emotionally and physically, not merely intellectually like "our neighbour" of the Catechism or "the man in the street".

Croce has said truly that what we seek in art is the artist's personality. It is equally true that the personality we find in it is our own. We realize ourselves (which is the meaning of life) only by entering the world of imaginative creation.

When the nature of literature is realized—but not until then, which is the justification of my long and difficult opening—it will be obvious that literature is not a thing that can be "taught," like arithmetic or geography. For it is concerned, not with facts but with impressions; and its aim is the delight of self-realization, and not utility.

The failure to appreciate this fundamental truth has vitiated most of our lessons in literature. Dry bones have been forced upon us in place of living reality on the false assumption that they possessed some value of edification: the dry bones are what was believed to be the "meaning" or "moral"; and the false assumption was that literature could deliver a purely intellectual message. The first mistake has been the parent of most annotated editions, and the second of most bad verses. To suppose that literature can be paraphrased is to labour under both misconceptions. And the popularity of this exercise among teachers suggests the advisability of clearing these away as the first obstacles in the way of reform.[1]

The value of the literary fact, like the value of the diamond, depends absolutely not upon the substance but upon the form; the mere carbon of the Kohinoor is almost worthless, it becomes precious only when it is crystallized as a gem. So the substance of the old plays which Shakespeare used as his raw material is of little intrinsic merit; yet the same matter—often the very words—in Shakesperian *form* is the greatest literature the world has produced. For example, the best-known passage in all Shakespeare, that written when, at the height of his powers, he laid down his pen for ever, is in substance, and largely in phrase, taken from a poet whose only claim to remembrance is that Shakespeare borrowed his ideas to transmute the substance by changing the form.

This is what the Earl of Sterline said in a poem of 1604:—

> "Let this worldly pomp our wits enchant—
> All fades, and scarcely leaves behind a token;
> Those golden palaces, those gorgeous halls,
> With furniture superfluously fair,
> Those stately courts, those sky-encountering walls
> Evanish all like vapours in the air."

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[1] But the attempt to recast inferior verse or clumsy or archaic prose into a more clear and beautiful form is a creative not a destructive exercise.

And this is what Shakespeare made of it in 1613:—

> "The baseless fabric of this vision,
> The cloud-capped towers, the gorgeous palaces,
> The solemn temples, the great globe itself,
> Yea, all which it inherit, shall dissolve
> And, like this unsubstantial pageant faded,
> Leave not a rack behind."

There are, of course, many unfortunate people who can see no difference in life-values between the two forms of presentation. To diminish their number is the highest service that a teacher of literature can perform for his day and generation. There can be no nobler work for any man. For, as Cæsar wrote to Cicero, "It is a nobler thing to remove the barriers of the intellectual life than to extend the boundaries of the Empire".

To change the form of the literary fact is to substitute dead matter for a living organism; the essential properties have vanished in the process. It is like reducing the diamond to its original carbon: the chemical substance is the same, but the beauty which gave it power over human personality has ceased to exist. That, from the nature of things, must always be the result of the attempt to abstract and isolate the intellectual content of literature; we can no more take it "pure" than we can assimilate mineral salts except when they exist as living matter in vegetable forms.

The older psychology which employed terms that suggested that intellect had any existence as a distinct faculty is largely responsible for this first and most fatal misconception of the nature of literature. The truth is, that you might as well seek the inward and spiritual grace of a sacrament through some other outward and visible sign than that ordained as suppose that the substance of an art-form can exist in any other manifestation.[1]

The object of literary study then is not to tell our pupils what they knew not but to make them what they were not, i.e. to increase their susceptibility to the appeal of literature so that they may "witness the pageant of nature and human life with appropriate emotions and see in it all that is to be seen in it by the finest senses".[1]

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[1] Though I am anxious to avoid the use of philosophical terms, I will quote in a footnote the conclusion of Croce's argument of this question in his "Æsthetic" (translated by Douglas Ainslie: Macmillan). "We must, therefore, reject the thesis that makes the æsthetic fact to consist of the content alone, i.e. of the simple impressions, in like manner with the other thesis which makes it a junction between form and content. . . . The æsthetic fact is form and nothing but form. . . . The expression alone, i.e. the form, makes the poet; Art does not consist of content, but it has no content if 'content' equals 'concept'."

The appeal of literature, as of all the arts, is first to the senses: if there is no physical resurrection there will be no literature in heaven nor any other art. For the arts are concerned with the whole man and can have no existence for a disembodied intelligence. Literature can only exist as musical sound; and can only be appreciated through the ear—which alone exposes the folly of paraphrase: it is like attempting to render the Ninth Symphony on a frying-pan. It is almost certainly through its rhythm that literature affects that deepest and most ancient part of our being, the subconscious mind; it is certainly through its music that it stimulates our emotional activities. And these manifestations of our personality, as they are far older, are far more important functions than that comparatively recent and rudimentary development we call the intellect.

Our first practical step must be in the direction of revealing literature as an enchantment of the ear, so that our children may say with Mr. Belloc "then indeed I understood how truly there are special words of witchcraft, and how they bind and loose material things". This should be done by associating literature with music. A short passage, say from Beethoven's Twelfth Sonata[2] (Lichnowsky), might be played over on the piano, next its theme should be repeated twice or thrice until the class

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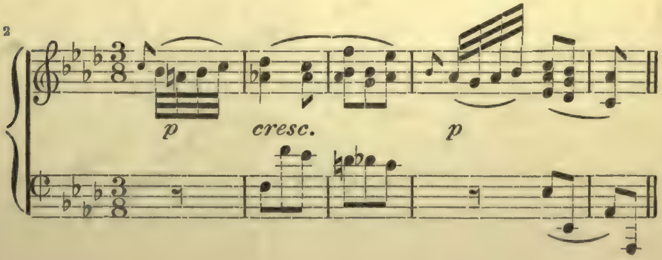
[1] Pater, "Appreciations".

[2]



have "got it into their heads," and then they should be asked to write down answers to all or any of the following questions; what feeling it gives you, what it reminds you of, what picture it makes you see, what words come into your mind, what does it make you want to do, what was the mood in which it was written, what poetry does it suggest to you . . .? In considering the individual answers to these questions the teacher should have always in mind the first canon of criticism that "the salt of all æsthetic study lies in the question: what, precisely what, does this mean for *me?*", and that "the meaning of any beautiful created thing is at least as much in his soul who studies it as it was in his who wrought it".

After this a short passage of fine literature in a foreign language should be substituted for the musical theme—a stanza of the "Marseillaise" or a passage from the "Iliad" or the "Æneid," or "Jean Richepin's Song," or a lyric of Catullus. When the passage has been recited once or twice, of course with full regard for its musical value, which means careful preparation by the reciter, precisely the same questions as before will be put to the class.

One most important concomitant of this exercise will be to impress upon teacher and taught the fundamental truth that a piece of literature, like a piece of music, is not a scientific statement with a definitive meaning which is the same for all who consider it. The language of literature is of the kind which Mr. Arthur Ransome has termed "potential"; his distinction between it and the expression of purely intellectual conceptions is so valuable for the critical student that I quote Mr. Lascelles Abercrombie's gloss on it in his "Art of Thomas Hardy": "With the scientist the value of words depends on their place in a sentence, their individual obedience to a general purport; with the poet, the logical value of words is compounded with an additional value just as considerable which is absolutely their own quite apart from any sentence wherein they may be of use. And this additional value does not embarrass the other, but on the contrary gives it surprising potency; for the thought of a poet is not something that can be stated precisely in words and there an end. It shades off all round from the precise into the indefinite and incommunicable, into what can only be suggested. He tries therefore not only to give his thoughts a logical statement in words, but also to infect his reader's mind with the vague aura surrounding his thought by so organizing his logical words that their essential hyperlogical value is noticeably and appropriately used. Such organizing will vehemently empower the logic beyond anything that can be effected by the mere instrumental use of language; but most conspicuously it gives words that challenging and exciting quality which they only have when they are used as things existing for themselves as well as for logic." The age which defined man as the thinking being defined language as the instrument of thought: we now know that as man is more than his thoughts so language is more than the symbols by which he thinks. Mesopotamia *is* a blessed word; and the old lady who felt it so had intuition if not reason on her side. The appeal of literature is to a larger entity than the intellect; and though its logical meaning be not apprehended a great poem in an unknown tongue is yet an imaginative stimulus. On the other hand a poem explained until every word is understood may be almost valueless because it has failed to appeal to the senses and the emotions and so to reach the depths of personality.

What is true of Greek and French is true of English literature, and passages of fine poetry and prose, e.g. of Swinburne, Milton, Raleigh, Ruskin, Pater, Chaucer, should be read to the children for their beauty of sound alone.

A further step, still in association with music, will be to reveal the suggestive power of sound. The Dead March in "Saul," the Bees' Wedding, or the Spring Song may be played, and the children should then be asked to discuss the correspondences between the music and its subject, and should note, for example, how quickness or slowness of motion; or gaiety or solemnity of tone; or energy or languor in the one reflects similarities in the other.

Following this should come illustrations exemplifying the same artistic principle in literature: Raleigh's noble

"Invocation of Death," Nash's "Spring Song," Shakespeare's "Fidele," Johnson's dignified letter to Chesterfield, "Young Lochinvar" or Browning's "Cavalier Song," the War Horse of Job, the last lines of Tennyson's "Revenge"—these are the first examples that come to mind of passages which illustrate a general correspondence in literature between the subject spoken of and the manner of speaking, between the state of mind and the sound of its expression.

In poetry, which is literature at its highest development, there is often a suggestion in the sound not merely of a general mood but of a particular image. In Vergil's

> "Quadrupedante putrem sonitu quatit ungula campum"

or his

> "Nec gemere aeria cessabit turtur ab ulmo"

there is heard a clear musical suggestion of receding hoof-beats or of murmuring doves. A number of similar passages in Latin, Greek, or any language with which the teacher may be familiar should be read to the children, and they should be asked to guess the meaning—in Hebrew, for example, there is the passage (Judges v. 22), finely translated, "Then loud beat the hoofs of the horses: off galloped, off galloped his chargers".[1] Then they should be given illustrations from English poetry, in order that they may realize that correspondence of this kind is an attribute of literary art which must always be looked for by those who would learn to appreciate it.

When Coleridge wishes to describe the noise of the wind in a ship's canvas, he does so by a simile, "the sails did sigh like sedge"; but the virtue of a figure depends upon our memory; and so, though his simile in itself is a fine one, he suggests to us in the actual sound of its words, instead of leaving us to recollect it, that rustling of dry sedges which is to give us our idea of what the Ancient Mariner heard in the sails.

So, when Longfellow wishes to communicate his impression of Rain in Summer, he chooses words whose sound has the same effect upon our senses as the noise and motion of the rain itself, and so he makes us actually hear—

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[1] Herein is an opportunity to enlist the services and sympathy of cultured laymen and so to bring school into touch with the wider world of men. It will unfortunately be a revelation to many children that learning is loved by people who are not forced to it.

> "How it rushes along the roofs,
> Like the tramp of hoofs,
> Howitgushesandstrugglesout
> Fromthethroatoftheoverflowingspout."

He makes us feel in our own throats, as his words come gurgling out, what we imagine the spout would feel if it were conscious of the rain gushing through it.

Study of the means by which this correspondence between sound and sense is achieved, so that, in Newman's words, "Vergil's style is so identified with his conceptions as their outward development as to preclude the possibility of our viewing the one apart from the other," and "in Milton the harmony of the verse is but the echo of the inward music which the thoughts of the poet breathe"—this is only second in importance to realization of the fact itself.

Without troubling the children with the terms anapæst and dactyl, it is easy to show them that the greater the proportion of stressed syllables in a passage the slower will be the movement—

> "And nów, it is áll góne: liké an únsubstántial págeant fáded . . ."

> "Oh! dárk, dárk, dárk, amíd the bláze of nóon."

Or, vice versa, an increase in the proportion of unstressed syllables will quicken the sense of action—

> "I spráng to the stírrup, and Jóris and hé;
> I gálloped, Dirk gálloped, we gálloped all thrée."

> "Súdden alárms; húrryings to and fró; trepidátions of innúmerable fúgitives . . ."

Again they should observe that long vowels tend to slow the movement of a sentence, while short ones quicken it—

> "Sle͞ep, sle͞ep, to thȳ hushed boūrne the tīred āges ste͞al awāy."

> "Swĭft ăs ă flăsh frŏm ă gŭn . . ."

So, too, a large number of consonants in proportion to the vowels employed makes for deliberateness of speech and retards the movement, particularly when a consonant at the end of a syllable is followed by one at the beginning of another—

"Full‿knee-deep‿lies‿the winter‿snow . . .
Toll‿ye the church‿bell,‿sad and‿slow."

Then it should be realized that some consonants require more vocal effort in their production than others, and therefore suggest, when they predominate in a passage, an effect of energy and action; while those more easily breathed induce a mood of restfulness and quiet. Compare the snap of the consonants in—

"Our feet broke the brittle bright stubble like chaff"

with—

"It ceased, but still the sails made on
A pleasant noise till noon."

Or note how musical, no less than pictorial, contrast is achieved between the beginning and the end of the first stanza in Tennyson's Sir Galahad. So bad poetry will afford examples of incongruity; the rhythm of

"One of the bravest, one of the best,
A good husband and father has now gone to rest"

reminds us of "Rings on her fingers and bells on her toes," and makes us smile when we should cry.

Space will not allow me to speak of contrast when I come to deal with variety as an element in literary form. I can only remind the reader that it is one of the great artistic principles common to all the arts, and that children must be trained to recognize and appreciate it not only in literature but in music, sculpture, painting, architecture, and glass-colouring. Appreciation of the last two, particularly, is immensely heightened when the student has learned to look for contrast in the disposition of the masses, in the comparison between the weight and strength of a basement and the lightness and grace of an upper story, between the dark line of a triforium and the illuminated prism of a clearstory, between a background of silver grisaille and the jewelled mosaic relieved against it.[1]

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[1] *Vide* "Architecture in Oxford Stone," E. A. Greening Lamborn: Clarendon Press.

It is necessary here to guard against the danger lest anything which has been said might seem to suggest that "art is imitation" in the photographic sense—that poetry, for example, ever descends to the tricks of representative music. The mirror the poet holds up to nature is the mirror of his own soul; and what he shows us in it is not the raw material of reality but his own heightened consciousness of it transfiguring it into beauty. In literature, as in music, "purely imitative processes are materialistic, and descriptive music only becomes spiritually influential when it embodies in the imitation of a natural object the emotions which it causes, e.g. Siegfried's Forge Song, in which the music, embodying the rhythm of the bellows, also expresses the splendid vigour and enthusiasm of the young smith. Pure description in music without emotional content is the lowest form of musical expression. It is imitation, not utterance. It is objective, and all high music is subjective."[1]

Art is not merely, as Wordsworth said, emotion recollected in tranquillity, but emotion transformed. Any father's cry for his dead child, for example, would communicate emotion to those who heard it; but it becomes poetry only when it takes a form that is felt to be beautiful:—

"Oh my Son Absalom, my son, my son Absalom! Would God I had died for thee, Oh Absalom, my son, my son!"

So a mother's grief is the same *in itself* whatever the form of its expression; but it becomes the substance of poetry only when it is expressed as beauty. Hawker's "Cornish Mother" speaks for all bereaved mothers; yet no mother speaks like her. The actual screams of Lear as we should have heard them would merely shock and pain us; but, as Shakespeare makes us hear them, transformed into music by passing through the medium of the poet's mind, they inspire us with a sense of beauty while "purging our souls with pity and awe".

And this brings us to a matter that is fundamental to successful teaching in literature, recitation or reading aloud.

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[1] W. J. Henderson, "What is Good Music?"

The common pedagogic demand for reading "with expression" arises from the same misconception that makes paraphrasing a popular exercise in schools, the blindness to all but the intellectual element, the misguided attempt to dissect it out and get it "pure". "Reading with expression" means stressing words for the sake of the logical meaning. This is absolutely fatal to art, because it is simply an attempt to get behind the poet's "illusion" of beauty and to exhibit the intellectual "reality" that formed his raw material. It was precisely this danger which Shakespeare had in mind when through the mouth of Hamlet he exhorts the actor to "speak the speech I pray you *as I pronounced it to you*, trippingly on the tongue". All the poets, with one significant exception, have been similarly anxious that their work should be rendered as music. Hazlitt tells us "there is a chant in recitation of Coleridge and Wordsworth which acts as a spell upon the hearer and disarms the judgement". We are told the same thing of Tennyson and Rossetti; in Browning's recitation alone "the stress of voice was not intended to be musical, but indicative of the meaning". The obvious inquiry, though no teacher asks it, is why Browning employed rhythm and rime if he did not intend them to be marked in reading. And the answer is that, whether Browning knew it or not, the true meaning of poetry is inseparable from its musical form. "Art is to create a mood:" the musical word is the spell that enchants the hearer and takes him into a world where men do not so much *think* as see visions: the words of enchantment are a kind of incantation and must be spoken like a charm; and if they are altered in any way (by paraphrase, for instance, or by being rendered as logical statements) the spell will not work. "Sesame" alone is the word of power that opens the gateway to the enchanted world, that "world made by the singer for the dreamer".

That is the theory with which the practice of all poets and the instinct of all children agree; and it is the theory to which the teaching in the schools must conform if the love of literature is to be revived among us: well marked rhythm, a singing rather than a conversational pitch of voice, and in poetry a definite pause and emphasis on the rimes—seek these things first and others shall be added.

One of them will be a feeling for musical expression which may have at least one result that even the practical man will appreciate—an improvement in the children's style. Most of us have been taught that if we write grammatically and logically we have done all; "marking composition" meant mainly, and still commonly means, correcting faults of syntax, of logical arrangement and of spelling. But these, however important, are matters of convention: beauty of sound is a natural propriety; and yet its importance is very rarely mentioned when faults of style are being discussed; and jingles, harshnesses, clashes, and awkward combinations of sound abound (the example is premeditated) unregarded in children's themes. Verse-writing is the most valuable of all composition exercises, partly because it reveals melody to be no less important than meaning. Carlyle expressed one of the deepest truths of criticism when he said that "wherever you find a sentence, musically worded, of true rhythm and melody in the words, there is something deep and good in the meaning too. For body and soul, word and idea, go strangely together here as everywhere." I have emphasized the auditory appeal of literature because its fundamental importance has been all unrecognized in our schools. But (always through the ear) literature also affects the other senses.

As in the theatre music is associated with certain scenes for its emotional effect in inducing the appropriate mood in the spectators, so in literature (but here in identification of form) pictures are raised by musical sound before the inward eye.

Sir Philip Sidney was more inspired than all the preachers when he said that "the function of poetry is to make this much-loved earth more lovely". It is the function of all art to re-create the visible world, to show us the revelation

> "Of all that is most beauteous—imag'd there
>   In happier beauty; more pellucid streams,
> An ampler ether, a diviner air,
>   And fields invested with purpureal gleams."

Literature, like love, transfigures its object; it is the expression of "the rapture of a man who sees on clouds alike and on canvases, in a flower or in a missal, visions of illuminating beauty which he has the unparalleled accomplishment of being able instantly and effectively to translate into words".

We all have known rare occasions in our experience when, for a moment, some common sight, a street, or a face, or a flower, struck us in a quite new way and showed us an aspect we had never seen before, a strange and beautiful aspect which vanished almost as soon as we were conscious of it. Now the artist is simply a man who sees these glimpses of beauty and fixes them before they can vanish—he manages to hold them long enough to express his vision so that others may share his perception of beauty.

And that is the importance of art in our lives, it gives a permanent form to the fleeting vision and so enables us to multiply those glimpses of the divine aspect of things; which is what Shelley meant when he said that it redeems from decay the visitations of the divinity in man. It prevents the shades of the prison-house from closing in upon us so that the world becomes a dull place in which day after day we see the same things in the same way, till life becomes, as the American said, "just one damned thing after another". Which is the true spiritual death. From the burden of this death it is the function of art to deliver us.

The artist, like Sir Philip Sidney, knows what the self-satisfied blindness of the professional Christian prevents him from seeing—that even in this world we may enter that finer atmosphere in which the soul burns and glows with a purer flame. "I was in the spirit on the Lord's Day": we no more than John need wait for our revelation. God has not left Himself without witnesses even in this world; but they are the poets rather than the preachers. Just as He opened the eyes of Elisha's disciple and showed him all the mountain full of horses and chariots of fire, so He stills reveals through the artist that

> "Earth is crammed with Heaven and every bush afire with God."

The change that took place at the Transfiguration was not in the Person, but in the eyes of the three disciples, who saw for the first time the glory of personality behind the material veil. In the moment of artistic vision men become as gods, knowing good and evil; for they see things as God saw them when He looked at the work that He had made and "behold it was very good". Religion has become so conventionalized that some of my readers may have been made uncomfortable by my taking it so seriously. The truth is, that both art and religion exist to bear witness to the divine in man: the one proclaims that beauty is truth; the other that truth is beauty; the one is the expression of a living sense of the holiness of beauty, the other of the beauty of holiness. And the deepest intuition of both is that "the Kingdom of God is within you".

Never in the history of the world had mankind more need of that revelation. And since, for the moment, it despairs of the churches it must get its vision from the artist—or perish.

Once when Turner was at work on a picture, a lady watching him said, "I cannot see that green you are putting into the sky". "Don't you wish you could?" replied Turner. That is the highest function of æsthetic education—to enable us to see things as the artist sees them. The art of the writer has much in common with that of the painter; the essential gift of both is primarily the power of selecting and arranging significant detail.

When Mr. Max Beerbohm in "The Poets' Corner" shows us Victoria and her age by means of two tiny figures sitting far apart in an immense room with a single bad picture, a gold clock, two lustres, four uncomfortable chairs, and a hideous floor-cloth, one of the figures obviously thinking only of himself, and the other only of the subject of the picture; when Pip reveals the whole story of his bringing up by hand in mentioning that he supposes no one to be better acquainted than himself with the ridgy effect of a wedding ring passing unsympathetically over the human countenance; when Mrs. Quickly protests that Falstaff promised her marriage "sitting in my Dolphin chamber, at the round table, by a sea-coal fire, upon Wednesday in Wheeson week, when the Prince broke thy head for liking his father to a singing-man of Windsor"; or when Mr. Kipling out of the innumerable phenomena of the downlands selects a sloping hillside bare of all but cloud-shadows and stunted trees, a dew pond and blue distances, and so gives us a vision of Sussex—then we see exemplified the artist's essential power of choosing out of an infinite number of impressions the one or two significant details that suggest all the rest to our minds, and confirm the sense of reality in the whole—for who could suppose Mrs. Gargery's ring or Mrs. Quickly's dish of prawns to be a mere invention. We know that Peggotty was a real person—for her finger felt like a nutmeg-grater.

But art in literature involves not merely the selection of essential detail but of the most significant words out of the many that may be possible. Kipling's artist-eye, which enabled him in an instant of vision to concentrate a thousand experiences, told him that the hawthorn was the characteristic tree of the downs; but it was his instinct for words that led him to select "gnarled" and "writhen" as the inevitable epithets to describe it, so that, as was said of Shakespeare, "his image is so lively (living) that the thing he would represent stands full before you, and you possess every part of it".

It is largely by the choice of the perfect epithet that poetry achieves the intensity, the concentration, which makes it as Aristotle said the most philosophical form of language; the long, loving, detailed study of epithets, of "all the charm of all the Muses flowering in a lonely word," is one of the surest means to literary appreciation. I remember once misquoting a line of Jean Ingelow's—

> "The sun lay sinking in the western skies".

A boy pointed out that the proper epithet was "barren" skies; and we discussed for half an hour the immeasurable superiority of the right word—how that western was useless, since the sun was setting; how that barren implied cloudlessness and expanse and stillness in the air, and clearness and fine weather, and much else which the fertility of child minds suggested but which I have forgotten.

Then, too, largely by means of epithets literature affects the other senses. Keats, for instance, constantly appeals to our sense of touch, as in—

"A little moonlit room,
Pale, latticed, chill and silent as a tomb."

And Rupert Brooke, particularly in his finest poem, "The Great Lover," has many epithets that give us a sense of reality by making us, like Didymus, assure ourselves of the Truth by touching it, or even by smelling and tasting it.

This leads us to a consideration of one of the essential characteristics of literature which Milton expressed by the term "sensuous," by which he meant what we should now call "concrete". The artist has nothing to do with abstract ideas: hours and seasons, for example, for the poet are not "morning" and "evening," but

"When the cock is crowing aloof,
Till the stars shine through the roof";

"late spring" is

"The time of year when the shining daffodil dies . . ."

Time itself is a being that "crawls" or "gallops" with the mood of the poet, or outlives the monuments of man, on which it

"Feeds like slow fire upon a hoary brand";

old age is "a few, sad, last grey hairs" (and the sound of the tired words is as sad as the image); life is

"A poor player
That struts and frets his hour upon the stage
And then is heard no more."

And the existence of the masses of our industrial population is not "a period of unremitting and purposeless labour terminated only by death," but "crawling down a drain-pipe till you die"; wealth is not "goods" or "money" or "property," but "the rich garment, the stone roof, the covered board, the couch of down".

Here again the reader must search for and supply examples for himself, and will find them as readily in prose as in verse.

An important element contributing to the pictorial effect of literature is the appeal to the sense of colour by means both of epithets and figures of speech; allusively, by references to coloured things, as in Mr. Masefield's

"Cargoes," which glows with colour so that we are astonished to find on examination that colour is hardly mentioned; and also even more subtly by a certain suggestiveness in the tones of words. Just as the music of trumpets suggests red or trombones purple to most minds, so the sounds of certain words have power to convey a feeling of colour, or at least, of light and shade; thunder, sullen, boom, for example, are "dark" words; glory is golden; innocence is white. Ruskin's description of Turner's "Slave-ship" is a marvellous piece of word-painting which should be studied by all who would understand how words can call up colours to the imagination by each of these methods.

It will be seen by the examples quoted that this sensuous reality in literature is produced very largely by means of figurative language.

The use and importance of the figures of speech cannot be discussed to any good purpose within the limits of this essay. Nothing better illustrates the deficiencies of English teaching in the past, its utter blindness to real literary values, than the space devoted to figurative language in most of our textbooks on English language and literature. For literature very largely *is* figurative language, and a person who has never distinguished and studied the figures of speech can no more hope to appreciate it than a pawnbroker to enjoy Bach.

The textbooks usually include a few utterly inadequate notes on the figures in a chapter dealing with Prosody. This implies a quite mistaken assumption that figurative language is concerned only with verse. All poetry is literature. But what many people fail to realize is that all literature, whether it takes the form of prose or verse, is poetry; for it is a creation instinct with the full life of the artist, expressing and impressing a whole personality. The great mass alike of verse and prose is not literature at all. A scientific treatise, say Dr. McDougall's "Body and Mind," is not literature, because its appeal is only to the thinking part of us; the verses of Ella Wheeler Wilcox are not literature, because in them the intellectual element is absent.

All literature, then, must in some degree involve a sensuous appeal, which means that it must present concrete images rather than abstract ideas; and to achieve this pictorial effect it must employ the figures of speech. If the reader will study the description of Rab in Dr. Brown's "Horæ Subsecivæ" or of Jan Ridd's ride home from school in "Lorna Doone," he will find in the prose most of the characteristics of what is usually called poetry, including examples of all the principal figures of speech; it differs from verse-poetry only in being less musical because it has no rhythmical pattern; and, more significantly, in not so identifying form and substance as to suggest its content by its sound.

To appreciate the art in verse is to see and appreciate it in all literature. The fine flower of the tree is only the modified leaf; and the artistic devices of poets are simply those that characterize all literary work, but concentrated and intensified; it is the same fire but burning with a gem-like flame; as Meredith wrote of love, "the trials of life are in it, but in a narrower ring and a fierier".

The first of these devices is repetition, which in some manifestation or other is at the very basis of literary form. What we crave most in our little lives and what the artist gives us, very largely by the effect of repetition, is a sense of stability, of "something abiding in the transient". In verse it exists as a regularly recurring stress forming a rhythmic pattern, or as alliteration, or rime, or assonance. In these forms its purpose is mainly a sensuous gratification, though rime may also emphasize the content when the words made conspicuous by it are also the key-notes of a stanza, as in those beginning

"When lovely woman stoops to folly";

or "Spring goeth all in white";

or "Not a drum was heard, not a funeral note".

Repetition of a leading idea takes other less subtle forms: one of the earliest is parallelism in which a thought is re-expressed in a new form, "Entreat me not to leave thee: nor to refrain from following after thee," or is followed by its reverse half, "a wise son maketh a glad father: but a foolish son is the heaviness of his mother"; another is the refrain or burden; another, the commonest of all, is simple re-assertion for enforcing the sense and deepening the impression, and gratifying the instinct expressed in the first canon of appreciation, καὶ δὶς καὶ τρὶς τὰ καλά. Poe's story "The Tell-Tale Heart" is an admirable study of the effect achieved by repetition of key-words and a dominant idea; but, of course, any fine poem or passage of prose will illustrate the principle. I need hardly say that repetition is as essential an element in architecture, painting, and music as in literature, and that it should be illustrated by examples of those arts—again, possibly, by friendly specialists.

Opposed to repetition but equally an essential artistic principle is variety. The senses first demand it, for the very instinct that craves for repetition is quickly satiated by absolute regularity in recurrence. The machine-made chevron pattern on a modern Norman arch, for example, is offensive in its inhuman accuracy, while the old work pleases through the constant little irregularities that reveal a human personality in the artist. So Milton's ever-shifting cæsura, Shakespeare's frequent eleventh syllable, Tennyson's chiming vowels (he altered "lovelier than any in old Ionia" to "than all the valleys of Ionian hills"), Coleridge's occasionally lengthened stanza, are all artistic devices to please the sense by varying, while conforming to, a mechanical pattern. The error of the Whitmaneasy poetasters is their failure to realize the fundamental value of rigid form that calls out all the powers by the effort to triumph within the given conditions and make difficulty itself become part of its facility and joy. It was long ago profoundly said that "it showeth more cunning in the maker by following the rule of his restraint," or, as Lord Morley wrote of Comte, "he justified his literary solicitude by the wholesomeness alike to heart and intelligence of submission to artificial institutions. He felt, after he had once mastered the habit of the new yoke, that it became the source of continual and unforeseeable improvements even in thought, and he perceived that the reason why verse is a higher kind of literary perfection than prose is that verse imposes a greater number of rigorous forms."

It is therefore extremely important to realize that a poet's variation from his self-imposed restraints arises not from weakness or rebellion but from artistic purpose. When Macaulay lengthens a stanza by an additional line—

> "As that great host with measured tread
> And spears advanced and ensigns spread
> Rolled slowly towards the bridge's head . . ."

he does so to produce the effect of sustained and continuous force and motion by "holding on" the rime and so keeping up the tension of the mind. Most of the enlargements of stanzas in the "Ancient Mariner" may be similarly accounted for. So, too, when Coleridge varies his iambic form in "*Wăs ă flásh* ŏf lívĭng fíre," he achieves a sudden quickening of the movement most expressive of the image. Inverted stress again is due not to a poet's rhythmical failure, but to his power of using the rhythm to gain emphasis, or suggest force:

> "*Shocks* and the splintering spear, the *hard mail* hewn,
> *Shield-breakings* and the clash of brands, the clash
> Of *battle-axe* on shattered helms;"

or

> "Leviathan, which God of all His works
> *Created hughest* that swim the ocean stream,"

where the visual image is marvellously identified with the sense of impeded force and lumbering weight in the sound of the words, as Hazlitt and William Watson have noted.

Poetic form is an element of beauty which has been all too little considered. For "art and industry," as Huxley said, "can get much music of a sort out of a tin whistle; but when all is done it has no chance against an organ". Our histories of literature are rather accounts of the progress of thought than of the development of the means of expression. No one, for example, has called attention to the modern development of the stanza in the hands of Swinburne and Mr. Bridges, who may be said to have added new stops to the poetic organ, if not new instruments to the orchestra; so that if Shakespeare were re-born in our age he would certainly surpass his own lyrics by means of the new powers given to poetic form.

The most valuable of these is due to the discovery of the feminine rime *as an element in pattern:* such rimes have of course always been used casually; but Swinburne seems to have been first to employ them alternating and contrasting with male rimes in a regular pattern which is one of the artistic secrets of all his greatest poems and particularly of the "Chorus in Atalanta" and the "Garden of Proserpine". It is also the great secret of O'Shaughnessy's sweetest music, e.g. "The Fountain of Tears". Mr. Bridges' finest poems, too, are all remarkable for the elaborate beauty of their stanza-form; and those who will study his "Elegy on the Death of a Lady" or his "Hill beside the Thames" will find in the artistry of the rime-plans and the varying lengths of the lines a new and delightful exercise of critical appreciation. His Elegy, like Gray's, appropriately employs mainly the slow, grave line of five stresses; but, after four of these, variety and relief are given to the ear by a line of only three stresses, followed by one of four, in which, however, the necessary effect of *length* is regained by means of a feminine rime with its additional syllable and sustained by making the concluding line longest of all. The rime-plan is equally admirable: the first four lines rime alternately; then comes the sudden surprise of immediate repetition of the last one, rendered still more effective by the shortening of the line; next comes a new delight in the introduction of a fresh, feminine rime; and lastly another new gratification in the repetition of the second rime unexpectedly chiming in for the third time. An attempt should always be made to study literary form in the light of Flaubert's idea of "some pre-existent adaptation between a relation somewhere in the world of thought and its correlation somewhere in the world of language meeting each other, soul and body re-united". Thus Nichol in his "Byron" speaks of "the pre-established fitness of the ottava rima—the first six lines of which are a dance and the concluding couplet a breakdown—for the mock heroic," and of its obvious misuse in Keats's "Pot of Basil". So the couplet may please when its subject is a Christmas Pie or a purely intellectual perception, but the clinch of its over-prompt conclusion makes it an inadequate instrument to convey the music of a deep emotion—which is the fundamental flaw in the Shakespearean sonnet. A simple but most striking demonstration by which the significance and importance of stanza-form may be revealed even to the eye is to write Herrick's "Daffodils" on the blackboard in the form of prose and ask the children to re-write it in verse. Various forms will result, among them, almost certainly, two long couplets:—

> "Fair daffodils we weep to see you haste away so soon.
> As yet the early rising sun has not attained his noon;
> Stay, stay, until the hasting day has run but to the evensong,
> And, having prayed together, we will go with you along."

If now the teacher writes the poem as Herrick composed it side by side with the great heavy chunk of verse in the couplets, it will be seen how exquisitely the light airy form of his dainty little lines agrees *visually* with the flowers and his child-like talk with them.

By reconciling recurrence with change, and moulding nature in apparent conformity to a rigorous conventional form, the poet achieves the Greek ideal expressed in the seeming paradox, "variety in unity, and unity in variety".

Unity is an element in every beautiful thing and to appreciate it in literature is a part of our education. It is the first of those principles common to architecture and style, by which in both arts the whole structure is foreseen from the beginning, with all its details in their relation to the completed work.[1] The plot of "Tom Jones" or "Othello," the character of Dugald Dalgetty or Sancho Panza, the atmosphere in "Great Expectations" or "Winter Nightfall," the musical tone throughout "All That's Past" or Gray's "Elegy"—these are all examples of artistic unity. On the other hand the principle is violated when Micawber is degraded to the level of a Justice of Peace, when Falstaff is outwitted by bourgeois intelligence, or when Ella Wheeler Wilcox discourses of the weariness of the world in cantering anapæsts.

Another principle common to literature and the greatest of the architectural systems, Gothic, is economy in material. Every detail is functional as well as decorative, the carved boss in the vault and the shafts on the pier, the cadences and the rimes; remove but a stone or a word and not merely the beauty but the purpose of the whole is endangered.

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[1] Note, for example, the artistic value of a string-course in giving unity to a façade, or of a spire in grouping round it the rest of the building in one composition.

The truth of this will be realized if we ask our pupils to set down in their own words the ideas conveyed to them in any fine sentence—say a stanza of Sir Henry Wotton's "Happy Life," or if we write on a blackboard the third stanza of Mr. Kipling's "Sussex," leaving blanks for the epithets, and then ask the children to suggest the missing words. They will then realize that the poet, so far from being a spinner of "idle" words as the philistine supposes, has such a mastery over language that he can make a single sentence tell more than a practical man's paragraph. I said "tell"; but "suggest" is the more appropriate word.

Of suggestiveness as an essential characteristic of literature, I have already said something in speaking of Mr. Ransome's contribution to the theory of poetic diction; it is this quality that enables the artist to produce effects out of all proportion to the number of words employed; it is this too that gives poetry its infinity of meaning, so that as Shelley said: "Veil after veil may be removed and the inmost naked beauty of the meaning never exposed. A great poem is a fountain ever overflowing with the waters of wisdom and delight; and after one person and one age have exhausted all its divine effluence which their peculiar relations enable them to share, another and yet another succeeds and new relations are ever developing the source of an unforeseen and unconceived delight." Lastly, this quality is the source of that sense of mystery and strangeness, of a higher, hidden meaning behind the outward expression, which is an abiding presence in all great art and which makes us feel that both we and it "are greater than we know".

Keats's "La Belle Dame sans Merci" is one of the world's great poems primarily by virtue of this quality; and with it might be compared Walter Pater's description of the Monna Lisa.

It is in this aura of suggestiveness which surrounds the work of art that we find scope for expression of that impassioned personal experience which is the end and purpose of critical study, which makes criticism "the soul's adventure among spiritual masterpieces". We come to literature to see things as the artist sees them, but also to see in the artist's work things we have created for ourselves. The first maxim for teachers is that in art there are many things hidden from the wise and prudent but revealed unto babes. Children have often found for me in poetry delights that not merely I myself, but, I firmly believe, the poet himself had never suspected. The most fatal mistake we can commit is to try, with the help of an annotated edition, to teach children what poetry means, as if literature were kinetic speech and had one definite and limited interpretation; you might as well try to make your mother mean to other people what she means to you. The interpretation of art is personal, each one receiving it according to his needs and temperament; our business is not to ask our pupils to accept the meaning which it bears for us, but to induce each one individually to find out for himself what it means for him and to develop his own personality in the process.

With Miss Vernon Lee,[1] "I cannot repeat too often that the differentiating characteristic of art is that it gives its works a value for contemplation independent of their value for fact-transmission, their value as nerve-and-emotion-excitant and of their value for immediate, for practical utility". The teacher who would realize this for his pupils and himself should read them Bitzer's definition of a horse in "Hard Times," and follow it with Job's magnificent impression of one. Then he will appreciate the distinction between science and literature, between kinetic and potential language, and will understand what Wordsworth meant by "truth carried alive into the heart by passion".

Or he should read an account of the "Revenge" in a school history and follow it first with Raleigh's prose and then with Tennyson's poem and note how personality is progressively engaged and how more and more the form of the expression becomes identified with the impression or "substance". And then he may proceed to what the Herbartians call the application stage by writing on the blackboard some disarranged statements (such as a man might hear after an accident by going from group to group of talkers), asking the children to write first a plain account of the facts so that a reader may *know* what happened, and next an impression of them so that he may *feel* the event as well as understand it. If the children are familiar with verse he will find that they will instinctively employ it for the second purpose.

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[1] "The Beautiful."

Or he may show how even the practical judgments of the ages preserved in proverbs and maxims owe their value and permanence not to "the wisdom of many" but to the "wit of one" who gave them the immortality of artistic form by which they instruct only because they delight; for they make you "*think back to the shape* once that shape has conveyed its message or done its business of calling your attention or exciting your emotions". The salt that preserves them and keeps them sweet in our mouths is beauty, in which successive generations have unconsciously rejoiced while supposing that they were being edified. An old saw may thus become a modern instance of the natural charm of literary form. "A rolling stone gathers no moss" and "A bird in the hand is worth two in the bush" give pleasure by their pictorial suggestion apart from their value as practical advice. In many maxims the pictorial appeal is figurative: "Procrastination is the thief of Time," "the Pen is mightier than the Sword"; often the charm lies in the antithesis of two pictures: "Fools rush in where Angels fear to tread"; sometimes in a puzzle-picture or paradox, "The child is father of the man". But "charm" reminds me that the essential element is always an auditory appeal. In some of our oldest proverbs it is alliteration, "A pig in a poke"; or assonance, "A stitch in time saves nine"; or the jingle of a ready rime, "Safe bind, safe find" or "Early to bed and early to rise Makes man healthy, wealthy, and wise," where the significance is concentrated in the words made conspicuous by the rimes.

Ex pede Herculem. Literature may be known in a fragment as unmistakably as a scrap of fourteenthcentury glass. The other day I wrote on the blackboard

"The woods decay, the woods decay and fall,"

and a class of thirteen-year-old boys got half an hour's pleasure in discussing the evidences, auditory and visual, of its poetical parentage.

I once heard a stranger getting out of a railway carriage quote to his companion the words :—

"Home, Rose and Home, Provence and La Palie." They were then quite new to me, but I knew them at once for words of power, and I have often used them since to cast on others the spell they threw on me and to illustrate the miracle of style which can stamp personality on a mere phrase. Whoever wrote them reveals himself as a poet—and a patriot. The suggestiveness of their mysterious beauty goes deeper and works far more subtly than "Breathes there the man"; and beside them "Rule Britannia" sounds like a pothouse chorus. . . .

The pause is meant to allow the reader the opportunity to make any remarks that occur to him. Whatever they are they involve the question with which we are now faced, of the relation of literature to ethics and morality.

I might reasonably plead lack of space for acting on Dogberry's principle and "look the difficulty in the face —and pass it by". It is far too large a matter to be adequately argued here. But it is also such an important one that it cannot be completely dismissed.

When Wilde said that all art is useless he expressed only a partial truth, but one that is much less misleading and dangerous than Aristophanes's half, that the poets are men's schoolmasters. Both are right; for truth, as always, is too wide for the limits of a direct assertion and can only be expressed in a paradox. An artist wills to make a useful thing; and instinctively produces a beautiful one: we approach his work as worshippers of beauty; and unconsciously obtain a blessing. So Michelangelo paints the Vault of the Sistine to teach the story of Creation; St. Hugh builds Lincoln to be a shelter for God's Service; Shakespeare writes "Hamlet" to warn us of the evils of intellectualism. And each, being an artist, cannot rest content in ministering to soul or body or mind, but instinctively produces a work that involves the whole personality; so that in the Sistine we forget the story in admiration of the painting, in Lincoln we ignore the building in wonder at its construction, and in "Hamlet" we find so marvellous a soul that we fail to look for a moral. And this, paradoxical as it seems, is the only way in which an artist can confer or we receive any practical "good": if he succeeds in being directly didactic he fails to reach our spiritual being; and if we come to him for practical ends we shall gain nothing of what he has to give us. In art as in religion who seeks to save his soul must first find it by seeking something else.

Because the nation and particularly its teachers have forgotten this we have become insensible to art and even distrustful of it. We lose all the significance of the "Ancient Mariner" when we suppose that its "teaching" is summed up in the stanzas beginning "He prayeth best who loveth best": the essential characteristic of a work of art is that it cannot be summed up. For like all the influences that affect us most profoundly—our mother's love, our father's example, our early environment—it works unrealized in the subconscious mind. Art exists to reveal not what we should do, nor even what we should believe, but what we should love. And what a man loves is far more important than what he believes; and will largely determine what he will do.

"I have learned," said the philosopher in James Stephens's "Crock of Gold," "that the head does not hear anything till the heart has listened; and that what the heart knows to-day the head will understand to-morrow". That is the first lesson to be learned by all teachers of literature. And the second is that the test of a man's education is what he chooses to do when he is not obliged to do anything.

THE TEACHING OF ENGLISH COMPOSITION

By Guy Kendall, M.A.

A FEW years, or generations ago, the question whether English Composition can be taught was considered as debatable as was the same question concerning virtue among the ancients. At the present day it is a settled opinion that it can be taught. Most of us teach it, or try to. The few who still disbelieve cover their scepticism in the silence of their hearts, or release it under their breath in Common Room. The danger is rather that every man thinks himself competent to teach it, sometimes with insufficient thought about the matter; or at least he is expected to be able to. "I suppose you can offer Elementary Mathematics, and French up to matriculation as subsidiary subjects, and of course you can teach English to the Junior Forms," is the sort of formula which perhaps comes too easily to head masters who are engaging recruits for their staffs.

In the older Public Schools, where the classical side is still strong, there is probably still a good deal left of the old idea that a boy learns to write English best through translations. It is mainly held by Classical Masters whose business is for the most part with the more scholarly boys. These boys pick up their English by nature and instinct, supplemented by some good reading of English literature and the better journals. They improve and develop it, of course, by practice in translation, but it is difficult to believe that they originally acquire it that way. As for the "average boy" who, for the kind of Classical Master whom we are considering, is the rather incompetent boy, the common verdict will be that the boy will never be very good at it, and will be worse if he is allowed to give up the Classics for the dilettantism and "soft options" of the Modern side.

But it stands to reason that the average boy cannot learn through translations. If he has not the English, into what shall he convert his Latin or Greek or French? There is, of course, the English which his master afterwards tells him he ought to have used. But it is common knowledge that the sort of jargon which the boy first puts down is what becomes more permanently impressed on his mind. Next time he will reproduce his own familiar jargon, not the master's corrections. Moreover, even if he had a fair knowledge and habit of correct English of an elementary type, the ancient authors, with whom he has to deal, employ a type of language which is usually a good deal in advance of what the boy is accustomed to. The periods normally employed by Cæsar and Livy are at least as long, and nearly as complex as the average sentences in Macaulay or Gibbon, and at the age when a boy ordinarily begins to translate Cæsar or Livy he knows little of Macaulay's prose and nothing of Gibbon. Broadly speaking, there are no easy or simple ancient authors. That is why the number of books of manufactured Latin is constantly on the increase. And if the same cannot be said of French, the problem in translating that language is often, at the more elementary stage, no more than that of transcribing words correctly in much the same order and arrangement. Moreover, the prevailing "direct method" tends to bar translations from French into English, at least in the earlier stages. In any case, it does not give much opportunity for constructive composition in the native tongue.

But it is hardly worth while to elaborate further a contention, the truth of which is now so widely conceded. I will only add a slight testimony derived from personal experience. At Oxford, after my first year or so, I ventured with much diffidence to attempt a contribution to one of the ephemeral undergraduate weeklies. The Editor shortly returned it, with the advice that the idea was good, and if I could cut up each of the sentences into at least four, he might be able to accept it. Looking back on that time, when I had completed the greater part of a thorough and far-prolonged classical course, I am quite sure that I had no idea how to write tolerably readable English. Possibly the translator is kept straight by his original, but, once released from the leading-strings of an ancient author, and left to his own unaided powers of composition, he finds the reminiscences of classical style an insufficient guide to expression.

While this idea, that the art of writing English can be learnt through the practice of translation, is dying out in the Public School, the growth of the Public Elementary School, and its expansion into the Municipal Secondary School, have brought the problem of the teaching of English Composition into much greater prominence than before. Here, there is no question of learning through translation. It is often a desperate struggle, both in regard to speech and writing, to substitute English for a kind of speech which is hardly English at all. If the question of translation comes in, it is because this strange and sometimes almost foreign speech must be translated into the mother tongue proper.

Not that the English public schoolboy always speaks anything wholly recognizable as the mother tongue. His first idea of composition is to write down the sort of stuff which he talks to his companions in his native haunts in the house or the cricket field. Now, what he uses in his native haunts is a vigorous medium of communication in many respects. It is clear, precise, expressive. It conveys what it is intended to convey, and is perfectly intelligible to the persons to whom it is addressed. In fact, if the modern doctrine, that art is expression, be sound, then the ordinary schoolboy is an accomplished artist in his speech. But when this kind of thing goes down on to paper in a set "essay" or composition in school, it is equally plain that it is a very imperfect form of art, to say the least of it. Apart from the spelling, the grammar, and the handwriting, it is vague, halting and ineffective. Frequently it is unintelligible.

To what must we ascribe the difference? Presumably it is to be found in the nature of the matter which has to be conveyed—the thing to be expressed. In his ordinary conversation, the schoolboy is talking about simple matters quite familiar to his audience, and the medium has become more or less conventional. It is sometimes a species of oral shorthand. But in his written exercises the conditions are quite different. The matter is, or should be, as a rule familiar to himself. At least that is a dogma which has been so frequently impressed on the teacher of English, and so universally accepted, that we may now take it for granted. But it is a dogma of equal importance that he should write as though he were informing a person to whom the subject is wholly, or for the most part, unfamiliar. To convey his meaning, he must employ a form which does not as a rule come natural to him. For one thing, instead of expressions frequently elliptical or ejaculatory in form, he must substitute fully formed sentences, of the right length, shape, and arrangement. He must arrange his matter methodically in sections, a process which requires a right understanding of the purpose and structure of his paragraph. And the whole (if it is intended to be a whole) must have some unity of structure.

It is plain then that the art of English Composition has to be learned, and learned systematically. But this is not the same thing as to say that it can be taught. It might, for instance, be argued that it can only be learned (1) by much reading of good literature; (2) by study of the matter to be written about. Knowledge and grasp of the subject, some may say, will inevitably bring with it the right form of expression.

There is much reason, no doubt, in the former of these contentions. To soak oneself in good literature is an almost indispensable condition for acquiring the power of literary expression; and the same may also be said of the habit of listening to good conversation. The difference between the boy who has been brought up in circles where intellectual topics are habitually discussed at table and elsewhere, and one who never hears anything but everyday commonplaces, uttered in the jargon of the Cockney, is most marked. It profoundly affects not only his speech and writing but his intellectual power and interests in every respect. However, we have to deal only too frequently with the boy who has not the former advantage, and who, especially if he is brought up in a home where good books do not abound, reads little that can be called "good". It is confined to the very limited amount of literature which is read aloud in school, or such as may be prescribed (with varying success as to the carrying out of the prescription) for "home-reading".

As for the contention that the study of a subject naturally brings with it the right form of expression, it is only too commonly reported that students who have (or appear to have) a good grade of scientific principles and can carry out practical work in this field with skill and accuracy, have great difficulty in expressing themselves clearly and intelligibly in writing, even on those subjects which they are supposed to have mastered. Quite recently a physician remarked to me how extraordinarily rare it is to find a doctor who can write a letter about a patient that will fulfil the ordinary requirements of composition.

Moreover, even if the boy is better left to his own devices with the least amount of direction in the first instance, careful and systematic criticism is perhaps the teacher's most important function. And criticism is often more effective (1) if it is collectively applied and (2) if it includes some mutual criticisms by the class.[1] Any one set of compositions is sure to contain a good number of instances of some one fault, and probably of some one good quality.

But, whether instruction proceeds rather by way of exhortation and premonition, or by way of criticism after the event, there are certain presuppositions which every teacher must be able to assume at some point in a course of English. First there is grammar. A writer in the "Times Educational Supplement" in the summer months of 1919 has given us some very vigorous and trenchant criticisms of our present procedure in regard to English Grammar. He contends mainly that it is found to be the most unpopular subject in the junior curriculum, and he justifies the pupils' verdict. Nor would he have it taught at all to children below the age of twelve (at the earliest). First construction, and then analysis, is no doubt the true psychological order; though it would be a mistake to suppose that the two processes can be absolutely distinguished. If they were, we should none of us know

[1] An interesting exposition of this method is to be found in "The Writing of English," by P. J. Hartog (Clarendon Press, 1907).

what a word or sentence is, let alone a noun or verb, until we approached the study of formal grammar.

Now, in this matter of the right age for beginning the study of grammar, the opinion of schoolmasters and mistresses would probably be other than what it is if no foreign language were studied in schools. It is in the interest of the teacher of foreign languages that the introduction to the science of language is hastened. Hence some difference of opinion is arising between the Primary and Secondary Schools about the right age for beginning it. The Primary Schools have, after great struggles for liberty, got rid of formal grammar altogether, and the Secondary Schools now complain that they have difficulty in initiating the ex-pupils of the Public Elementary Schools into their first foreign language owing to their complete ignorance of the simplest grammatical terms.

Purely for the purposes of English Composition, the amount of grammar which need be known is very small. It is plain that at some time or other every child must learn his parts of speech. How can we advise him as to the right use of adjectives, a most important point in composition, if he does not know what an adjective is? I do not believe much in the subtleties of the predicate, and especially its extensions, but it will be difficult to help some boys to get their relatives and other pronouns right, if they do not know the distinction between subject and object. Beyond that it is important, when we come to analyse the forms of the sentence—simple and complex, loose and periodic—and to discuss the uses of the different forms, that we should be able to assume a knowledge of the distinction between principal and subordinate clause. Most popular also with teachers of English is the classification of Noun, Adjective, and Adverb Clauses. This is no doubt a good mental exercise, and useful as a further illustration of the parts of speech. But two reasons lead me to doubt if the distinction is essential. First of all, just because it is recommended as a good mental exercise. When a subject or any part of it is so recommended, it is a pretty sure sign that it is not an essential. It is a weak part of the structure that is in need of a buttress. This sort of recommendation became prominent in the decay of classical teaching—not merely, I mean, when the demand for classical teaching first fell off, but when the methods of teaching it declined in quality. I confess also to a doubt as to the necessity for all boys of Algebra and Geometry for much the same reason. The study of English is the very last which we ought to make primarily a mental discipline, still less a mental torture. Discipline there will be, as in all serious study. But, as in all good teaching, so especially here, the discipline will be best when it is least apparent. The best-behaved classes, and the best writers are alike in being least aware of the discipline to which they are submitted or to which they submit themselves. The second reason is that I personally never became aware of this particular classification of clauses till I began to teach English Grammar, and had already published more than one book. The truth is that we may congratulate ourselves in learning a language whose grammar is simple and only to a limited extent analysable. The devisers of grammatical puzzles in English are frequently unable to solve them for themselves. For example, who can say what is the relation of the noun and the noun clause to the verb in "I advised my brother that it was not well to take the risk"? Or how shall we analyse the phrase "up with the flag"?[1] Let us hope that the elaborate analysis of sentences which requires a complicated framework of intersected parallelograms will soon be as obsolete as the rack, which it resembles so strongly both in formation and in purpose.

The logical order in which we should consider the units of composition would naturally be word, sentence, paragraph, and whole. But we have now got beyond the fallacy that logical order should be followed in teaching a subject.[2] It was this fallacy that was responsible for the horrors of the old method with the classics, which began with exercises such as "He-loves"; "Of-a-table"; then proceeded by degrees to "He loves the beautiful table of the girl". No construction was allowed which included words not already declined and memorized. Similarly in teaching composition, even at the earliest stages, we shall not begin with the single word or group of words, nor necessarily even with the sentence. We may just as likely begin with the largest and most complex statement of which the child is capable. And the first practice will usually be by word of mouth.

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[1] This phrase was recently offered for discussion in one of the London Matriculation papers.

[2] Apart from the logical order, it is not quite plain what is the psychological order of the units of speech. The Egyptian children in Herodotus' story were first observed to utter a sound which was discovered to mean "bread". But the utterance was really an elliptical sentence which meant "I want bread," or "give me bread". At least it was no less a sentence than the example above, "up with the flag," which likewise lacks a verb.

Of the teaching in the earliest stages, of quite young children, I personally have little experience. They have plainly been learning lessons in composition, many of them self-taught, under criticism (not always the wisest) of their parents, nurses, brothers and sisters, from the time of their earliest articulate sounds. But it is generally accepted (and it is the natural method of procedure) that a child should begin his lessons in composition with oral practice, and should not begin to write original and constructive compositions, even of the simplest kind, till he has practised talking about the subject. This method has the same advantage that was mentioned above, in connexion with criticism, that it can be pursued collectively and co-operatively.

Their complete compositions will, at this stage, probably amount at the best to what may be regarded as a paragraph; but plainly it will not be well to teach them what a paragraph is till they are prepared to attempt a structure which shall consist of more than a single paragraph. A child's first description of a flower will not and should not be capable of division except into sentences. The whole can be regarded as a paragraph only when it is part, or may be part, of a larger whole. But, later on, the writing of paragraphs, as such, is an exercise of considerable importance, not only as parts of a complete essay, but also in relation to that important factor, the "topic sentence," which is the key to the paragraph.

Exercises in the use of these are extremely useful, as well as interesting. It is quite fascinating too to take a passage from a slightly rhetorical author like Macaulay, and observe not only where he places his topic sentence, but the relations of his different sentences to one another as regards length and complexity, and above all his choice of the loose or the periodic form. There are numbers of boys who hardly ever employ any form of sentence but the loose. It probably reflects the nature of their thought. Something rather vague occurs to them, and then they proceed to amplify and qualify it. All their subsequent contributions to the complete sentence come trailing in as afterthoughts, and this procedure becomes habitual. We are probably all familiar with the type of letter-writer who makes a statement qualified by a whole string of clauses each beginning with "as," which may be varied by "and," or "but".[1]

Here again the sceptic may ask, if a boy cannot shape and arrange his sentences by instinct, is he ever likely to do so by means of study? Can a good style ever be consciously acquired? The answer is the same in the case of all studies. He who does well by nature will not need to analyse his method greatly. He who cannot write well by nature will never acquire the ease and fluency of the born writer, but he can improve a good deal and eliminate most of the clumsiest of his faults by practice under advice and criticism. The child who does not strum out tunes on the piano before he knows his notes is unlikely ever to be a great composer; but he may learn both to perform and to compose quite tolerably by method consciously acquired, and even by analytical study.

We now come to the question, what should be the form of the complete composition? In the earlier stages, the letter is a useful form. For one thing it presupposes a person to whom the communication is addressed. It is best if the person is real, a relation, a friend, or the teacher himself. "Dear X," or the like, should be forbidden. For there is an advantage in at least simulating reality, and all sorts of shorthand, including, above all, the sign etc., should be avoided. The reason is the same in all cases. Either the persons and things are worth naming, or it is needless to allude to them at all. In the earlier stages the matter will be mainly descriptive, and it is preferable that it should be expressed as objectively as possible. A child's own impressions are better indicated by saying that "such and such an object is or was so and so," rather than that "I felt so and so about it". Later, in the general essay, it is necessary to wage war upon "I think". Boys have to be impressed with the fact that their personal opinions are of no particular interest where what is needed is to carry conviction by argument. "I think that the angles at the base of an isosceles triangle are equal" is of no use or interest to us. We look for proof, which is objective. At the same time it is a mistake to put an embargo on the pronoun of the first person, by way of rule. Where a personal experience is being related, e.g. in a description of a bicycle tour, plainly the use of it is in place and unavoidable. A criticism which was recently made by an official of a Local Authority on the compositions of some candidates for County Scholarships is of interest in this connexion. He said that there was a tendency to substitute imagination—and rather lurid imagination—for fact. For example, the instruction, "Give a description of a windmill," produced highly imaginative fictions about a person who fell from the top of a windmill, and the like, while hardly any children attempted to describe the windmill itself, its structure and working, in detail. It does not follow, however, that every description need be of the scientific order. The Association of Science Masters in Public Schools recently issued a complaint that the boys who come from Preparatory to Public Schools are unable to give a clear and accurate description of a common object. From the point of view of science the complaint is valid. But as evidence of defects in the teaching of composition it is not so clear. If I am asked to give a description of an inkpot, I can do so from either of two points of view, the scientific or the artistic. If science is my object, I shall of course attempt to describe accurately the shape and contents of the article, the substance of which it is made, whether opaque or transparent, and the like. It must be noted, too, that part of the description, so far as it relates to the substance of which the object is made, may go beyond the facts immediately perceived. But, for the artist, many of these details may be irrelevant. My æsthetic interest may be concentrated on the lights, reflections, colours, curves of the object, and I may legitimately ignore the character of its contents and its origin entirely. Just as drawing may be practised for the purpose of Nature Study or of Art, and with different methods and results (at least the results *ought* to be rather different), so literary composition may be pursued with a scientific or an artistic purpose.

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[1] Strangely enough, the loose form of sentence, or at least the paratactical arrangement, is coming to be adopted as normal by modern writers. It seems to have some affinity with the expressionist movement in painting. It is not ineffective in a leading article, but becomes decidedly monotonous when continued throughout a whole book. It is probably a reaction against the studied rhetorical manner.

When the stage is past at which compositions are confined for the most part to description or to personal experience, a boy will at some time or other be expected to produce something which goes by the name of an essay. Not that these stages need be entirely distinct. There is no reason why a subject which requires argument, such as "Should games be compulsory?" should not be introduced quite early. In fact, to mark off, by form, the "essay" from other forms of composition, is probably a mistake. It is doubtful if the production of a finished essay is an object which we should set before pupils so frequently as is now the custom. The essay is really the most difficult of all forms of composition, especially when its limits are those of the ordinary weekly exercise, or two hours' examination paper. To find models for this sort of composition, we may search the whole of English literature and find little if anything which answers our purpose. The best models available will be the leaders of our best dailies or the articles in our weeklies. But to produce a finished composition in so small a compass is, as every skilled journalist will tell us, an accomplishment of the utmost difficulty, needing a high order of literary proficiency and years of practice. If we turn to the classical English essayists we shall find little to answer our purpose. The essays of Addison and Lamb, and still more of Macaulay, are of far larger scope. Their subjects are in many cases fanciful topics which admit of no precision. Their method is often discursive. Bacon's essays are nearer what we want in scope, but their style is condensed and difficult, and their subjects usually abstract and ethical. Personally I am inclined to think that we too often insist on having a finished composition, and should sometimes ask for a fragment of an imaginary whole. We do not always give boys complete compositions to read. The literary "reader," or book of selections, is quite a useful and legitimate instrument of education, if the selections are well made and are of sufficient length to avoid scrappiness. Similarly, why should we not ask for compositions which will take the form of extracts, especially if based on the actual literature that is being read? For example, if the class has been reading Newman's account of the devastation of Lombardy, a similar account of the devastation of Belgium may be quite in order. The advantage will be that it need not begin with any introduction about the German invasion nor end up with general reflections on the methods of barbarism. The same, too, may sometimes be done with a subject which is not descriptive. It will avoid the necessity of that air of completeness, which is often quite false. An essay with an artificial "finish" is a good deal worse than a candid fragment.

This is not the place to attempt any sort of catalogue of common mistakes in essay-writing. Every teacher of English is familiar with them, and must deal with them as they arise. I will only suggest one piece of advice as to the method of attacking a general essay, especially upon the more abstract subjects, which will be useful to the boy who has not much literary instinct. The advice is, "Approach the matter as though it were a scientific problem. There are certain facts before you; these you must set down first, and by examining or comparing them lead up to a general conclusion." In short, the order will be the same as that of scientific research. Too commonly the inexperienced writer inverts the order. He starts with his conclusion and then gives a miscellaneous collection of reasons why he thinks so. Apart from the fact that he is giving the verdict before the evidence, by forestalling his conclusion he cuts himself off from the possibility of conversion on examination or re-examination of the facts.

It is well to advise a boy never to write with his authorities before him. If he does so, his production will probably "smell of the lamp". It will consist of fragments from other writers, closely paraphrased, or even plagiarized, with a loose connexion supplied by the writer. The best advice to give is, "Make your notes, digest them, then preferably put them away and construct your own scheme, referring to them only where memory fails you". That it is usually well to have a written scheme, it is needless to say. It is, however, perhaps too rigidly required by some English teachers. Very rough jottings are often the best. It is not well to bind oneself absolutely as to the course of procedure. The development of the theme may produce currents of thought which require a departure from the original plan. If the conception of the whole is vivid enough in the mind of the writer to enable him to dispense altogether with a scheme, then so much the better. A scheme should be a help, not a fetter.

One or two minor points it may be well to mention. First, there is the question of stock phrases. These have had their defenders. It is well to use them, say some authorities, for they act as a sort of bridge or causeway to carry us over the duller and marshier places till we reach the heights again. Their meaning is well known, and they often save us the expenditure of unnecessary words. But the danger about them is that they are a sort of literary shorthand, a device to save the trouble of thinking. They come naturally into the mind, and do not give the reader pause, but act on him as a soporific. As a distinguished writer once said to me, it is the cliché that, more than anything else, makes writing dull. For every stock phrase is usually either a stale metaphor or a worn-out simile. The pictures which these figures of speech should have conveyed no longer come into being. Therefore it is a good form of self-discipline for all writers, but especially for the inexperienced, to eschew all worn-out metaphors and similes whatever. He will not say that so and so has burned his boats nor compare an unexpected event to a bolt from the blue. It may be be well even to prefer "filled with a new desire," rather than "fired by . . . ". It will seem dull at first, as though he must eliminate every element of imagination or poetry from his work. But when the real element of illustrative imagination or the first touch of poetry comes to him, it will stand out all the more clearly and signally as a new discovery, a true illumination of the object of thought. By this self-restraint he will actually have cleared the way for the arrival of such genuine inspirations.

There is probably no subject which needs, more than English, to be supplemented out of school by voluntary activities. In the old times, at the Public Schools, this was the only way in which the study was pursued at all. And it worked very well for those who took it up. But then the majority did not take it up. There are ways, too, in which a definite link can be established between the formal lessons and the voluntary activities. Form magazines often spring up on the initiative either of the teacher or of the class, and the weekly composition may well be devoted to the purposes of a Christmas number.

There may with advantage be more than one Literary Society in the school. For the existence of a Junior Literary Society is certainly not less important than that of a Senior. Probably the experience of the present writer is similar to that of many others in the fact that his introduction to many researches which have developed into permanent interests took place in the writing of papers for such societies. The debating society will also give opportunity for the development of the powers of extempore composition, if, as should always be the rule, contributions fully written are not allowed.

An essay on English Composition can hardly be complete nowadays if it does not include some remarks on the practice of English verse. Probably a good many teachers of English feel some diffidence about introducing verse composition into their course. They have in mind the more commercially-minded parent, whose eyes are fixed on examinations and market values. They may acquire among their colleagues the reputation of being dilettantes, and possibly they themselves are doubtful if they want to make poets. But they need not make poets, any more than the art teacher need make artists, that is to say, professional poets and artists. One great difference between the middle ages and the present time is that then most men had the artistic sense, even if they were not aware of it, and many could produce beautiful things without being professional artists. The intensity of industrial and commercial competition, among other causes, has destroyed this capacity. But the idea of the universal capacity for art was maintained in the place given to original Latin verse composition in the old Public School curriculum. The pity is that when Latin verse, and especially original Latin verse, decayed, the Public Schools did not maintain the tradition by substituting original English verse. One reason why they did not was probably the knowledge that some boys (though probably fewer than is usually thought) are wholly incapable of producing verse, even if full opportunity is given them. This incapacity would be more glaringly evident in the native tongue than in the ancient. Nevertheless it is probably true that the Public Schools, which, through their more independent position, might have done so much for general culture, have done less for the cultivation of poetry and the poetic instinct than the newer products of the municipalities.

For most schoolmasters probably Latin verse, like Latin Grammar, has an advantage over English, in the exactitude of its prosodical rules. Whether such exactitude is really an advantage, I have already expressed a doubt, when treating of grammar. In verse it is indeed easier to get a novice to write something recognizable in form as verse, if the rules can be stated exactly. Whether you will get anything better is doubtful; and the absurdities of enforcing verse on the ungifted as a "mental discipline" have sufficiently been shown by long experience of weekly "Latin verses" at Eton and elsewhere.

Some do make the attempt to reduce English prosody to exact rule. Milton did so, and followed his rules faithfully, as the present Poet Laureate has shown. But Milton's works are restricted as regards variety, nor would all authorities follow Dr. Bridges' methods of analysis. They are divided as to how far the quantitative signs and other analogies of classical verse structure should be followed, or if stresses only should be indicated. They speak variously of iambus and dactyl, or of "rising twos" and "falling threes". My own preference is for the stress-system, but I only deprecate the use of quantitative words if there is a tendency to treat these as actually indicating quantity, for this must lead to an ignoring of the real and most important function of quantity in English verse.

The writing of verse should be a luxury and a treat for those who are disposed to try it. If you invite verse composition early enough in the school career, most of your pupils will be so disposed. Probably most enterprising teachers of English can show examples of most remarkable productions of very small authors. Certainly the faculty dies hard. I have known classes, which, in the ordinary subjects of their curriculum, were to all outward appearance as dull as nature ever made boys, suddenly blossom into verse of the most promising kind. The advantage of beginning early enough is that they acquire the habit of it before they can possibly understand the technicalities of prosody. They will then become more susceptible to rhythm, and, when the time comes for analytical treatment, will understand it better and take to it more kindly.

One danger it is necessary to guard against, especially if the practice is occasional. Boys sometimes produce wonderful effects by accident. Recently I came upon what was quite a fascinating example of an apparently irregular metrical form. But I eventually ascertained, as I had half suspected at the time, that it was intended for ordinary blank verse. For that sort of poet, the discipline of prosodical analysis is probably the only cure.

It is hardly necessary to add that this sort of activity ought always to have a further opportunity out of school, the natural outlets in this case, as before, being the Literary Society and the School Magazine. Nor will their verse composition be confined to English. Many teachers of Modern Languages are encouraging both original verse composition and metrical translations to and from the foreign tongue with encouraging results. In the future it will probably be a far more common element in all modern literary study than before, and I have a suspicion that some day it will revive even in the classical languages, when Latin and Greek are studied only by those (but by all those) who are capable of the task.

It was pointed out above that every English composition can be classified according to its purpose as belonging to the category either of Art or of Science. We are familiar nowadays with the distinction between Science and the Humanities, which is certainly an improvement on the former antithesis between Science and the Classics. The danger in modern educational development is that the humane side should be neglected in the more obviously utilitarian pursuits. The cultivation of the mother tongue should not neglect the claims of either interest. No school should be above the task of teaching a boy to write a competent commercial letter. The slang of it—"Your memo. to hand of the 18th ult.," and the like (assuming that they are indispensable)—we may perhaps be excused in the Secondary School proper. If a boy has learned the power and habit of clear expression, which cannot be achieved without clear thought, the more technical elements in it are easily learned.

But, if we are to justify the artistic use of literature and composition, we must meet the utilitarian on his own ground, and insist that the study is, in the broadest but nevertheless the most real sense, of use. Utilitarianism, as the term is popularly used, means the idea that everything should be subordinated to the task of obtaining a subsistence. But man does not live on bread alone; and if bread were free, as Mr. Bernard Shaw would have it, man would still work in order to obtain other things, not only the other bare necessities of life, but a house that it gives him pleasure to live in, amusements, enjoyable holidays, a religion (so far as that is not free), and, it is to be hoped, the power of enjoying art, and even of producing it.

Art is a far wider activity than we commonly realize. It is always present with us, from the gesticulations of the public-house orator to the masterpieces of the

National Gallery. It is not enough merely to refrain from repressing this universal instinct of mankind. We must persuade every person to realize that in the most familiar letter to a friend he is practising a form of art, and that it is always worth while to do it well.

At the same time, to do justice to the "utilitarian" parent, it is to be regretted that there are so few reasonably secure careers open to the boy or girl whose gift is mainly literary. It is hopeless to speak of journalism, which provides posts that are notoriously insecure. To most that are so gifted, the usual routine is a classical scholarship and then the choice of school teaching or the humdrum security of the Civil Service. Some will find a place in a publisher's firm, where they can at least deal more or less with books and authors; but they will probably find that their occupation there has more of business than of literature.[1] Formerly, no doubt, a good many of this kind went into the Church. The quality of the average sermon is sufficient proof that now they no longer do. But at present there is nothing to fill the gap. Either it must be a profession which leaves sufficient leisure for writing, or an imprudent, if adventurous, plunge into journalism, with the knowledge, in the latter case, that matrimony cannot be undertaken without a very serious risk, and that, in a very literal sense, the morrow must take thought for the things of itself.

As a final word, let me suggest that we shall not do well to dwell over much on the minutiæ and the finer technicalities of the practice of composition. If we do so, we shall deter the young writer by suggesting that the ground is too full of snares for him to advance. We are all only too fallible in these matters, and in many of the best, most spirited, and accomplished of literary works there will most probably be found, by him who cares to look for them, nearly every error which has been mentioned in the course of this essay.

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[1] It is but right to point out that, while the business side of publishing is, naturally, very important, it is not specially prominent in the editorial department, to which University men are usually attached.—EDITOR.

THE TEACHING OF MODERN LANGUAGES

BY PROFESSOR R. L. GRÆME RITCHIE, M.A., D. de l'U. Paris, O.A.

THE object of the present paper is to give some account of current practice in the teaching of Modern Languages as a school subject. As it is clearly impossible to treat in a short article their present and future position in the educational system of the country, the reader is referred for the discussion of broad questions of policy to the recently published and exhaustive report of the Government Committee.[1] Of the foreign languages now taught in our schools—French, German, Spanish, Italian, Russian—the writer can claim some competence in only one, and attention is confined to French, by common consent the premier subject and sufficiently typical of the rest.

The report of the Government Committee (which consisted, in the main, of ladies and gentlemen not professionally interested in Modern Languages) has been rightly hailed as the Magna Charta of the Modern Language teacher. For the first time in our history the national importance of his work has been fully recognized. The report perhaps takes his profession almost too seriously and sets before him ideals difficult of attainment in an imperfect world. It lays down the rule, and not before time, that teachers and professors of modern foreign languages should be of British parentage and upbringing. But if they are to meet all its requirements, they will have to be "non Angli, sed Angeli". It looks with an unfavourable eye on all philologists and grammarians, though in a class of twenty British students there are always at least five or six with such natural proclivities; and it warmly advocates concurrent study of History, which is a great, but an other subject. But, with these minor reservations, its conclusions are accepted in this essay, and the hope is expressed that the Government will shortly give them practical effect.

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[1] "Modern Studies," H.M. Stationery Office, 1918.

In comparison with French, the other foreign languages taught have but a modest and inadequate place in schools. German bulks more largely in the public mind than before the war. War creates interest in the national life and history and in the language of the enemy country—hostile interest, but interest none the less—and it is not improbable that, whether for precautionary measures or for historical retrospect, the study of German may become more widespread. But at present it shows no signs of increasing popularity. Spanish is taught in a certain number of schools, less perhaps for its great literary and linguistic interest than for its commercial possibilities in South America. Italian finds few disciples, and chiefly for its intrinsic cultural value and its fruitful influence on English literature. While it is profoundly true to say that no modern language is easy, the initial stages in both these Romance languages present little difficulty. Pupils make very rapid progress and soon obtain a reading knowledge, which amply rewards the effort. The sudden vogue of Russian and its no less sudden decline are not linguistic, but political or economic phenomena.

These languages, and others with them, must be more generally studied, unless our young people are to remain linguistically inferior to the corresponding generation in France and Germany. We do not suggest that an individual pupil should learn more than two modern languages at school, unless he shows unusual gifts. But the national need of competent linguists is so great that provision must be made in Secondary Schools for teaching more languages than French and German. The majority of pupils would prefer these, but a small minority which had learnt Spanish or Italian or Russian would be a valuable national asset.

While in the less favoured languages a reading knowledge has often to suffice, the study of French is pushed much further. French is also much more popular as a subject. The pre-eminence of French literature from mediæval times, and the unique qualities of the French language as an instrument of thought, appeal strongly to our imagination. The long-standing interaction of French literature and our own, wherein France played the part which Greece played in Latin literature, the close relationship between the two languages, the age-long and intimate contact between the two countries, the hallowed memories of common suffering and common triumph, the knowledge that in the tragic events of the last few years France reached to the full height of her great past—all this makes it inevitable that French should take a more and more prominent place in the educational system of the country.

Since in methods of teaching, as in other things, the greater includes the less, what is said in the following pages applies also to the teaching of the other foreign languages, which will develop gradually along the lines now followed by French. The considerations advanced here may be taken as general, but the illustrations are drawn from experience gained in inspecting the subject of French in a large number of schools, ranging from the Public Schools to humbler institutions throughout the country.

The study of any modern language seems to us to fall naturally into three great divisions: the Language, the Literature, and the Life of the foreign nation. These three branches of the subject need not at any stage be taught in equal proportions. In the school curriculum notably, they will not occupy an equal place. But they are all of fundamental importance, and each of them is indispensable to a full understanding of the other two.

Language is placed first because, when all is said and done, we are and must remain, primarily Modern Language teachers. Until our pupils have come to understand precisely and without a peradventure what a foreign writer says, they can neither criticize him profitably nor form a sound and reasoned judgment on the nation he represents. Literature must be placed second because until they have learnt to speak and read the foreign language they are not ready to commune with foreign minds directly or by the printed word. "Life" is put last because, used in this sense, it is the coping-stone of modern studies, both linguistic and literary. It includes not only the geography, history, government and administration of the foreign country, but the multifarious detail in which the civilization of that country differs from ours. The final objective of Modern Language study we take to be full, sympathetic, well-founded knowledge of present-day life in the country whose language is learnt.

If that be the final objective, it follows that the task of Modern Language teachers is a heavy one. There is no subject quite analogous either in the school or in the university curriculum. The nearest analogy is English. But there the difficulty of language is reduced to the minimum, the literature is infinitely more accessible and the social background, which, when foreign, has to be artificially and laboriously supplied, is in great part familiar. If in their three-fold task Modern Language teachers have fallen short of perfection, the fault is not wholly theirs. Seeing clearly how much there is to do, how little done, they have naturally attempted too much, and, as late-comers, they have had to adapt to their subject the methods and aims of the older disciplines, notably Classics and English. But, however meritorious the intention, the net result is that the programme at present in vogue is not only heavy in comparison with that of other subjects, but heavier than is consistent with sound teaching. It requires, on the one hand, to be reduced to manageable proportions and, on the other, to be re-modelled to suit the special requirements of the subject.

I. Language

The chief discovery standing to the credit of Modern Language teaching in recent years is the practicability of applying to the acquisition of foreign languages methods similar to those by which a child learns his mother-tongue. The now famous "Direct Method" may not have produced the miracles that the early reformers announced, but the notoriety which it attained has at least ensured that the oral side of language teaching shall not again be neglected in this country. The educational public now realizes that a language is learnt by the ear no less than by the eye, and that success or failure in teaching it may be as fairly judged by oral, as by written, results.

It is not too much to say that the claims of ORAL PROFICIENCY are now quite reasonably observed in British schools. The extremer forms of the Direct Method are being gradually discarded because the results they achieve, though very striking at first, do not usually stand the test of time. If it be permissible to draw conclusions from the knowledge of French possessed by students entering the universities, it must be said that those trained exclusively under the Direct Method have a living interest in the language which makes them very pleasant to deal with as pupils, but are at all times liable to make elementary errors and eventually are outdistanced by their rivals. Present practice tends towards a judicious mixture of the New Method and the Old. It varies considerably from school to school and even from class to class; but most pupils passing out have at least heard a great deal of spoken French and had such opportunity of using it themselves as is possible in large classes. Those who reach the universities do not indeed speak the language fluently, but as a rule they are capable of following lectures in simple French, which is more than could be said of their predecessors twenty years ago. At school they have acquired the elements from which practical skill in the spoken language may grow.

It would be desirable, however, that a good school grounding in phonetics should be more generally given, and that examinations, which have lagged behind, should reward oral proficiency more directly than at present. The marks allotted to oral tests, dictation, reading, etc., should be considerably increased. No doubt knowledge of the spoken language improves the quality of the written work and is, therefore, to some extent rewarded. But the present system tends to discourage those teachers who devote much time to oral work.

The oral part of Modern Language study is clearly of vital importance. But the rival "Methods" have been so often and so fully discussed that it will be sufficient here to draw attention to three points frequently overlooked. The first is that, while the study of phonetics is a useful basis, it is not an end in itself, neither does it move on a very high intellectual plane. It is, therefore, to be hoped that, when Modern Languages come to play in our schools the part played by the ancient Classics, phonetics will take an indispensable, but a subordinate place.

The second is that the practice of learning passages by heart—invaluable as teaching proper diction and educating by the ear—might well be extended. As regards French, short pieces of simple and telling verse, such as Leconte de Lisle, "Les Elfes," and Sully Prudhomme, "Un Songe," are indeed recited in certain classes. Recitation should be made a *regular* part of the work at all stages. And prose passages, whether selected from the books which the class happens to be reading or complete in themselves, like Lavedan's "Credo," might profitably be added. Apart from the interest of subject-matter, they teach, as nothing else can, not merely phrases and genders, but the rhythm of French prose, and they foster a feeling for the subtle thing known as "le génie de la langue".

The third is that distinct limitations to fluency in a foreign language must be admitted—limitations of nationality, age, sex, and temperament, with which the efficiency or inefficiency of teachers has little to do. In one school or in one class there is ready answering in French, and in the next, silence. Scottish children are generally more taciturn than English, and neither are as voluble as their French compeers who learn English. Consequently, arguments provided by the success of the Direct Method on the Continent are unconvincing. Young children are apter pupils than their self-conscious elders, who know more and speak less. It is therefore natural, though discouraging, to find that progress in fluency is not continuous throughout a school. In a foreign language at least, girls are more loquacious than boys; their vocabulary is often smaller, but it is in readier use. Comparisons between boys' schools and girls' schools should be made with caution, and when one hears of the marvellous fluency acquired by the infant prodigy of this or that school, it is a wise precaution to borrow the Shakespearean phrase and ask: "Is it a boy or a *child?*"

The equally essential preliminaries to permanent linguistic attainment, namely Grammar, Translation, and Composition, are perhaps less successfully taught, and it is here that some delimitation of the teacher's task seems most urgent.

The GRAMMAR of a modern tongue is not easily mastered. It treats of the most delicate, fugitive, and fluctuating phenomena, which seem to defy close analysis or reduction to definite and absolute rules. In the subject of French, it would be difficult to name many grammarians sharp-witted enough to steer clear of positive error and learned enough to settle every legitimate query. Some of our French friends, it is true, claim knowledge of their grammar. Their decisions have a refreshing air of finality, which satisfies the anxious inquirer, but only for a time. When members of Examining Boards meet to discuss results, they generally find that in French Grammar it is easier to ask questions than to answer them. To mention only one recent instance, the sentence, "Il n'y a pas que des sots sur la terre," gave rise to a learned, but inconclusive debate. Some held that it meant, "There are other people besides fools upon the earth," which we should hope to be the case; others that it meant exactly the reverse, and they quoted Corneille and Racine in support; others again, that it might mean either, according to the "floruit" and syntactical habits of the author.

To solve such problems—and their number is legion—more help is required than may be had from any of the grammars now in use. Their crabbed rules and regulations are openly flouted by the great French writers. In what precise circumstances should the Past Continuous be used, and in what the Past Historic? And if we cast in our lot with the Past Historic and wish to emphasize the subject of the sentence, ought we to use *Ce fut* or *C'est?* What is the proper mood after certain conjunctions, and why do the right authors use the wrong mood? To such inquiries the grammarians turn a deaf ear. We urgently require school grammars more communicative and more trustworthy than the present, and a comprehensive reference grammar on the scale of Roby's "Latin Grammar" or Goodwin's "Greek Moods and Tenses".

Appeals to the dictionary, too, are often fruitless. Events move more rapidly than lexicographers, and Littré has fallen far behind the times. Some of the most common words and phrases in the chief contemporary writers are not to be found in the French dictionaries. Just as in the Oxford Dictionary the word "appendicitis" is unrecorded because the early volumes appeared before the malady, so a considerable portion of the literary vocabulary of a foreign language lies beyond the ken of the most recent dictionaries. It is one of the inherent difficulties of Modern Language study that extra-dictionary knowledge is required at all stages. This difficulty is exceptionally noticeable as regards French. As a nation, we began well in the science and art of French Grammar and Lexicography; but since John Palsgrave in 1530 and Randall Cotgrave in 1611 we have been less industrious. The lack of really adequate grammars and dictionaries is now such that teaching French in this country is not unlike making bricks without straw.

French Grammar, as at present taught, is not an exact science. It is difficult to formulate rules which shall not be upset in the course of the next day's reading, or at least provide the small boy with inconvenient questions. But, even in matters of undisputed fact, the grammatical training provided in many schools is unsound. Insufficient attention, in particular, is paid to accuracy in detail. On this point the evidence of written examinations is conclusive. Among hundreds of boys and girls leaving school in a recent year, most knew the third singular Present Indicative of *connaître*, but not ten just could be found to give it its lawful circumflex accent or, when invited to write in full the French for "Henry the Fourth," to use a capital Q in *Henri Quatre*. Of the generation of Scottish children who lately endeavoured in the Intermediate Examination to turn into French the sentence, "He has his hair cut once a week," few indeed were entirely successful. Even in the case of Honours students in the Universities, very real knowledge of French is not always incompatible with grammatical inexactitude. In the most advanced discussion there is always room for points of elementary grammar.

The grammarian has fallen on evil days. He has a bad reputation with the modern public. His shortcomings have not escaped the attentions of the Government Committee. But his art is none the less necessary because unpopular. To achieve permanent results, instruction in any language must proceed from the firm basis of grammar. It would seem that more time should be devoted in school to the teaching of formal grammar, especially in the initial stages of the course.

The schools where we have found the soundest knowledge of French, both spoken and written, are those few where the first year is spent largely on formal grammar and "sentences," and where reading is postponed till the following year. The practicability of such a system depends of course on the age of the beginners. But unless they are of very tender years, when it may be doubted if in any case they derive much lasting benefit from their early start, this method commends itself on grounds of common sense. A considerable mass of arid grammatical lore has to be mastered before one acquires a reading knowledge of a foreign tongue, and the irreducible minimum is best imparted as an ordered whole. The common objection that this is unduly Spartan and likely to discourage beginners is not confirmed by our experience. The lesson that a language may be "modern" without being "easy" is a wholesome one, which is never learned too soon. In the current practice, the reading lesson resolves itself into a mixture of grammar and translation, attention is focussed on neither, and progress is so laborious and liable to such frequent interruption that the interest of the subject-matter evaporates. A similar remark applies to vocabulary. To commit to memory lists of words is a much more "direct" method than theorists would have us believe.

Do what we will, the teaching of French Grammar, as at present conceived, is a heavy task, and it may be frankly stated that some reduction of programme is urgently required. A sharp distinction should be drawn between what is ordinary French and what is exceptional, and in fact rarely found outside the works of grammarians. Teachers and examiners should agree to omit the latter section, which might be relegated to the full reference grammar of the future. Those numerous "rare exceptions" which, like *travails*, "brakes for shoeing horses," are learned at school with labour and pain and then are seen no more, are not essential to a practical knowledge of French. Definitions which do not define might be dropped; a concrete example is much more instructive. The so-called Irregular Verbs—they are models of regularity in phonetic development—might be learned on a more rational system and some might even be omitted. The celebrated author of "Le Feu" cannot, or at least does not, "give the Principal Parts of the verb *poindre*," which he conjugates as if it were "poigner". What is apparently permissible in M. Barbusse is perhaps not a very heinous offence in Smith minor.

In Gender, the supreme and lasting difficulty of modern foreign languages, there is a moral difference between errors in common and in uncommon words; to say "*un*" *girafe* is not so bad as to say "*un*" *vache*. Consequently, instead of either extending a general pardon to mistakes in gender or else punishing all alike as equal offences against abstract truth, it would be well if teachers and examiners united to define "common" words and to promulgate a code of penalties—a Black List containing all those perennial errors which, like "*une*" *arbre* and "*une*" *empire*, are too well known to examiners, and a longer list of suspects arranged in descending degrees of offence. Then a large indulgence might be accorded to those comparatively venial errors in gender which the best pupils will make till the end of time.

In the absence of a graded scale, young people are flippant in this regard and rely unduly on their mathematical chance of being right, favourable in French, less so in German; while teachers, submerged by the flood of errors, soon become disheartened. Yet gender is no trifling matter. It springs from the very roots of language and thought. Thus, the word *pélican* is masculine, and for that reason the Pelican, which in English literature is a type of maternal love, tearing open her breast to feed her young with her own blood, symbolizes in French poetry the less likely self-sacrifice of the father of a family. For speaking, knowledge of gender is of prime importance. Nothing contributes more to silence in a foreign country than to see difficulties of gender looming ahead. No doubt there are ways and means of avoiding them occasionally. *Une sorte de* is a convenient cloke for multitudes of uncommitted sins. A dexterous use of the plural form sometimes saves the day. But we cannot always resort to circumlocution or multiplication. For many purposes a word is worse than useless without its gender, and the golden rule clearly is, "Never learn a new word without an accompanying Article or Adjective showing the gender".

The best way to improve upon the results at present obtained in French Grammar, and to ensure that irreducible minimum of grammatical accuracy without which language-knowledge is fundamentally unsound, is to adopt some convention as to what "French Grammar" is, make it something definite and of reasonable extent, and then insist on correctness within the limits thus prescribed, however narrow they may have to be. All grammatical facts are valuable, but some are of more primary utility than others and occur in much greater proportion per printed page. These are well known to teachers and should be taught first. Even when French Grammar has been reduced to essentials, there will be a considerable residuum of real difficulty which cannot be mastered without honest toil. If less were attempted, more in the end might be achieved.

The Government Committee appears to have been impressed by the arguments put forward by some Modern Language teachers in favour of banishing from the schoolroom the time-honoured exercise of TRANSLATION from a foreign language into English. It is hard to believe that these arguments were very sound. No doubt much time is often wasted on word-for-word translation of passages the sense of which is abundantly clear to every member of the class. It is not sufficiently recognized that a reading lesson is usually the completion of the work done by the class in preparation, and that after the quality of that preparation has been tested and found to pass muster, attention may safely be confined to points of real difficulty. But although the amount of time to be allotted to translation is a matter of opinion, some practice in it at all stages seems absolutely essential. It would be quixotic to throw away one of the chief means at our disposal for imparting precise linguistic knowledge. By all means read the foreign language without thinking of English words. But let us reserve the right to apply every now and then the acid test.

Whenever there is any doubt as to whether what is read is fully understood, translation into English provides a ready and infallible criterion. The information acquired in rapid reading is often surprisingly vague. Pupils know the meaning of a word or phrase until they are asked it, and then all sorts of doubts arise. This is true even of the mother-tongue. We may know the term "iron-gray" and yet not realize that it is the colour of freshly-broken iron, or "hard-bitten" without reflecting that it means "*biting* hard". How many Scots who sing "See approach proud Edward's power" attach a concrete meaning to the word "power"? In a foreign language the chances of error are infinitely greater, particularly in French, where the vocabulary has a superficial, but deceptive similarity to our own. Thus, it is perhaps by the process of translation that one realizes best the difference between French and English homonyms, which are one of the chief sources of unconscious error. No doubt the context of a phrase like "mon respectable ami" is in itself sufficient warning of the fact that the epithet connotes more than mere outward compliance with a certain code of conventions. But to discover that *indolence* and *industrie* are not what they seem may require translation of a passage where the corresponding English words sound so odd that the translator is driven to the dictionary.

Occasional exercise in translation has therefore a place of its own in the curriculum. It is a useful tonic, and it corrects the hasty assumptions and dangerous half-truths inseparable from a course of wide and rapid reading. In addition to the necessary process known as "getting over the ground," typical passages should be selected here and there and translated carefully into appropriate English, with all due weighing-up of pros and cons and a final decision between possible variants.

Another reason why translation should be held in honour is that it has considerable practical utility. The daily papers are often unintelligible without the inward commentary with which reading of the foreign news must be accompanied. "The ancient Chancellor of Germany" who lately figured in the press is recognized by the experienced translator to have no connexion with the Ancient Mariner, but to be only an ex-Chancellor. When after a naval battle some German fishermen, sailing past the scene of action, reported in the newspapers that "the sea was full of hostile corpses," their remarks had only been awkwardly rendered by some one who had not had the benefit of exercise in careful translation when he was at school.

Teachers often ask what would be a pleasant and useful form of intellectual pastime for those who have a little spare time and would like to continue their Academic studies without embarking on ambitious research work. They might do worse than undertake a really adequate rendering of a foreign classic. Most modern authors have been very hurriedly and often absurdly translated. Translation of a foreign stylist is an artistic exercise of the first order.

At school, translation as a fine art is generally neglected. The exercise itself is so misunderstood and misapplied that it may be worth while to suggest some reforms in examinations, in which it will always figure largely.

It should be considered the supreme test of knowledge of the foreign language in all the more advanced school examinations. If the text is clearly understood, the candidate will not fail to find English words to express its meaning. It is noticeable that boys as a rule are more successful in this than girls; but prudence suggests the unwisdom of drawing general conclusions from the fact.

Absolute accuracy of rendering should be demanded. If the "slap-dash" method really cultivates habits of rapid thinking and presence of mind, accommodation may be found for it in another part of the paper. There is no harm in providing some outlet for the meritorious qualities of facility and ingenuity; but they are too generously rewarded at present.

Translation should be marked also as an exercise in English style, not only because it is a ready means of teaching discrimination in the use of English words, but because the candidate who hits upon a happy phrase demonstrates that he has best understood the text and appreciated its "atmosphere". Gallicisms should be heavily penalized. Good English style is a form of accuracy, and so uncommon as to deserve recognition in marks.

The passage chosen for translation should test general intelligence as well as knowledge of vocabulary, i.e. it should contain crucial points affecting the entire sense. The French make a large use of what they call *textes d'idées*, in which misapprehension of the meaning of the passage as a whole may easily forfeit 50 per cent of the available marks. To introduce their system here would be rash, because it seems to offend our sense of British justice that such dire retribution should follow a single error, however vital. Yet their method is perfectly logical, for a statement that is 50 per cent right, and therefore 50 per cent wrong, is no more valuable in an examination than in ordinary life. When a doctor or a lawyer gives advice that is 50 per cent wrong, one is perhaps as well without it.

Papers should be shorter and simpler. The proper standard is quite easily defined. A satisfactory passage for translation is one which the best few candidates can do almost perfectly and of which the average rendering should not, as at present, become in the examiner's hands one mass of blue pencil marks. Examination papers, in translation as in other things, are too often framed "not for a scanty band of white-robed scholars only," but for the educational public, and particularly for colleagues in other subjects who suspect Modern Languages of being a soft option.

Youthful seekers after soft options would be well advised not to choose the last department of language study discussed here, namely COMPOSITION. As a matter of fact, it is well-nigh impossible to find passages of original English easy enough for school use. Most teachers have recourse to re-translation. They take extracts of simple French, translate them into simpler English, and use the result for elementary exercises.

This may be of some utility, but it is not French Composition, by which is meant translating into French passages of good, authentic, spontaneous English. Moreover, the practice has a depressing effect on the youthful mind, which fancies it is set a hopeless task, that of not only writing French, but reproducing what a particular French writer said. Do what one will, the "easiest" English passage contains turns of phrase which cannot be rendered into French without a knowledge of that language which it is futile to expect of schoolboys or schoolgirls.

Again, candour impels us to admit that Composition is not of direct practical value. In the ordinary course of nature, pupils will seldom be called upon in later life to translate from English into French. An insignificant minority may become foreign correspondence clerks, but their work will not be quite of the same character. It is difficult to conceive a profession, other than teaching, in which Composition would be the daily task.

Yet in the school curriculum Composition plays a useful part. Perfection, it is true, is not attained, nor even relative efficiency. But, while not an end in itself, Composition teaches incidentally a great deal of necessary information about grammar, gender, and vocabulary. Its value is in fact that of the easier exercise called Latin Prose. In schools it is a useful supplement to the grammar lesson—the practical application of grammar to something tangible and real.

Like most branches of modern language study, Composition stands in need of simplification. Very short passages should be given, and ample time allowed for discussion of the errors made. English is the proper medium of instruction, the use of French only making confusion worse confounded by introducing foreign technical terms. The accuracy attainable in the exercise being only relative, it is legitimate to let un-French constructions pass and to concentrate attention on the most glaring mistakes and those most likely to recur. The "fair copy" should be learned by heart, and to encourage the diligent it should be announced that extracts from it will be called for in the next terminal examination

What is called Free Composition is not nearly so free as the name implies. It is "free" in this sense, that there is no compulsion to say anything until the course lies clear before one, with no awkward genders and subjunctives in the way, and that it affords an excellent opportunity of working up to some remark for which one happens to know the French. Nothing illustrates better the fact that language is not only the medium, but the moulder of thought, that what we think depends partly on the material at our disposal for expressing it. The truth may require a phrase which unfortunately we do not know, whereas a capital idiomatic expression springs to the lips which is not strictly applicable to the real situation. Free Composition exercises the judgment and fosters the power of self-expression in the foreign tongue.

But it is not "free" in the sense of permitting modification of the immemorial usage of the grammar, or the invention of phrases which have not hitherto occurred to French authors. In the last resort it depends on memory—often subconscious memory. It lends an additional zest to the reading lesson, and induces the sharp-witted to learn off useful, ready-made expressions.

Lest to hint at the rôle played by memory in this exercise should be thought rather disgraceful, it may be pointed out that the same may be said of the august Latin Essay of the Sixth Form, none being complete without at least one instance of "quippe qui" or "in hoc rerum discrimine" or other meritorious locutions of which the essayist is not sole proprietor and inventor. French, too, possesses stock expressions and "passe-partout" phrases better than any likely to be excogitated during an examination. The speech-unit is not the word but the phrase, and this truth should not be forgotten in teaching the art of original composition.

Thus, it is a source of perennial surprise to examiners to find that even one regulation formula for the end of a letter is not deliberately committed to memory. A letter in French is not only the unfailing refuge of the examiner in distress; it is also a possible task in everyday life. In all such matters, the time is long past when originality of expression was attainable.

Much can be done by basing Free Composition on the reading done, and by supplying at first the general plan of the essay. Part of the difficulty is due to the unsuitability of the subjects chosen. Even in English it is not easy to draw from the depths of inner consciousness a page or two on a theme like "Les absents ont toujours tort" or "On a souvent besoin d'un plus petit que soi". If, on the other hand, recourse is had to the usual, limited repertory, former school exercises will be served up again by lucky candidates. The most satisfactory question is one bearing on a passage printed, or even on a picture actually reproduced, in the examination paper.

At present, Free Composition, which ought to be the coping-stone, is the weakest part of the written work in French, for reasons which are not attributable exclusively to that subject. The average examination answer is largely unintelligible, without beginning, middle, or end, in the proper sense of these terms. All is bubble, toil, and trouble. The ideas, such as they are, are set down in the order in which they happen to occur to the writer. This authentic peroration, culled from a batch of essays by students fresh from school, may be taken as typical: "Alfred de Vigny était le plus grand pessimiste du dix-neuvième siècle français. Il s'était marié avec une Anglaise."

To sum up the state of matters in the first of our three main branches of Modern Language study, it may be said that, while much progress has been made in the past twenty years, particularly on the oral side, the quality, rather than the quantity, of the work admits of considerable improvement. What is now required is greater precision within narrower limits. It may be that the study of language for its own sake has been neglected in a natural reaction against the mere verbalism of the past. Yet a modern language is beautiful in itself. The words themselves have a magic of their own. Their sound, their form, the way in which they are welded together in the phrase or the sentence, are all worthy objects of study. Even in junior classes attention can be drawn to the conciseness and terseness of French, the manner of one author may be compared with that of another, and some general principles of style may be taught.

The material in which the Modern Language teacher deals is peculiarly rich in living, human interest, and he, more than anyone, has the means of realizing what a delicate and beautiful instrument language is. The classical scholar has as keen an appreciation of the artistic qualities of language. But he has not the same cause to know that, whatever authority may be produced from the purest writers, a word may be unsuitable when used in one particular way, that some choice Ciceronian phrase lovingly set in a prize oration might sound pedantic or worse to the ancients, were they here to judge, or set the Roman senate in a roar because it had lately figured in a comic song or acquired for a brief season some ludicrous associations too subtle or too fleeting for any dictionary to chronicle. The English scholar, on the other hand, does not as a rule possess the intimate knowledge of another tongue which provides the basis of fruitful comparison. Real knowledge of what language means is perhaps the privilege of the Modern Language scholar, and he must not sell his birthright for a mess of pottage, even though the pottage were Literature and "Life," whose claims on our attention will be discussed in the next sections.

II. Literature

In the great majority of schools practically the whole of the time spent in reading a foreign language goes to the elucidation of the meaning and to discussion of the grammatical questions that arise in deciphering the text. Little attention as a rule is given to the literary or artistic significance of what is read. Under present examination conditions it would be injudicious to attempt much more. In the highest class some literature is often studied, but most pupils leave school without the elementary knowledge of literary criticism, as applied to a foreign language, which would be both pleasant and profitable in later life. Students who have devoted much of their time at the University to literary study find, when they become teachers, little outlet for their knowledge and skill.

In recent years there have been signs of a widespread feeling that in the past the spirit has been neglected for the letter in the study of Modern Languages. This feeling is clearly reflected in the Report of the Government Committee. Effect has been given to it in several examinations and it seems likely in the near future to alter those which partly determine the character of teaching in schools. How far is it possible to study at school not only the language but also the literature of a foreign country, without overloading a programme already heavy enough?

In the first place, some prevalent misapprehensions as to what the much abused word "literature" means must be cleared away. The easiest course will be to state what it does *not* mean, for school purposes.

What is often called "literature," and is in fact very interesting in itself, is not absolutely essential to the main object of intelligent reading, viz. intellectual pleasure. It may be defined as the effort to show the inter-relation of great authors. It is based on the principle that when an author begins to write, he looks round about him, as it were, reflects, whether consciously or subconsciously or unconsciously, on what his predecessors and contemporaries have achieved, and then endeavours to improve on their standard in his own way and in accordance with the spirit of his age. When Racine began to write, he did not evolve a dramatic system from his own inner consciousness. He profited by the experience of his predecessor Corneille and conformed with the changed spirit of his times. To show the exact relation between the poetry of Racine and that of his predecessors, contemporaries and successors is one object of the study of French literature, as now conceived. In other words, French literature is considered as a complex growth and each particular writer is assigned his proper place in the nexus. This historical treatment is out of place in school, for the simple reason that it presupposes an audience familiar with the works of at least the chief writers of the foreign literature studied. Pupils have not, and never can have, the necessary first-hand knowledge of the facts.

A great deal of what passes for "literature" is in reality second-hand criticism. This is outside the subject, namely, the intelligent appreciation of a book which is being read here and now—appreciation by the pupil reading it and not by some one else, however competent, who read it, or claims to have read it, in the past. In the literary world there are more echoes than voices; the authors, not the critics, should be first heard.

The erudition that has gathered round some immortal memory may be dispensed with at school. The chatter about a deceased poet or his wife or his wife's relations, the discrepancy between what a writer actually saw during his stay in America and what he describes with such vivid detail, whether certain of the plays were written by himself or by some one else, possibly of the same name—all such matters may shed a great light on French literature, but they need not be very closely studied in our schools. Our prime object is not this sort of commentary, but the text itself, its full meaning, its æsthetic value, its literary beauty.

French literary critics, in particular, are apt to prove too much. "Lamartine was brought up in the country; therefore he was a great Nature Poet." "Musset was a Parisian born and bred; therefore there is very little 'Nature' in his poetry." Sweeping generalizations are handed down from father to son and they are not always in very close relation with fact. The principles set forth with an air of authority are not absolute as the laws of Natural Science, and in the schoolroom they have to be formulated with caution.

Leaving aside a very considerable portion of the literary critic's work, we may retain as useful for school purposes his essential virtues. He points out beauties which in our hasty reading we may miss, and he helps us to distinguish good literature from indifferent or bad and to grasp the true significance of what we read.

These necessary elements of literary criticism might be supplied in a simple school manual, giving the general facts upon which every one is agreed, together with the requisite historical data for placing authors in their proper chronological position. But apart from this modicum of second-hand information, the study of foreign literature at school should be generally objective, inductive, and systematic, and start from the study of short typical passages.

When our pupils have come to understand the actual text of the passage read, their task is not finished. There remains the question of its inner significance, its literary and artistic value. Notions of this can be elicited from the pupils themselves in the manner which the French have made familiar by their use of *lecture expliquée.* Integral application of the French method is not possible in language classes in this country, because in France it deals primarily with national and not with foreign literature, and it has been practised for so long that very little guidance is required. Here the experiment would more naturally begin in the English class. In the case of a foreign literature the exercise should be made at first very simple, taking the form of a series of definite questions, to each of which a definite answer is expected. They may, to begin with, be couched in English, but later on, the foreign language will be gradually substituted, first in the question and then in the answer, and finally the pupils themselves will supply both question and answer.

Lest it be objected that such work is too advanced for schools, it should be remembered that the standard depends on the character of the questions asked. If so desired, they may be of sublime simplicity. Is this passage prose or is it verse? How many lines are there? Into what divisions do these lines naturally fall? What is the meaning expressed in each division of the sonnet? What is the meaning of the whole? What presumably was the poet's general intention? Does he seem to have achieved his purpose or not? Thus by easy stages is reached the question to answer which is the conclusion of the whole matter: "Is it a good poem or a bad?" or, "What is good in it and what is bad?" No literary critic can do more, though he will tell us all about the sonnet-form and its history.

This class of work can quite easily be done in schools and, as a matter of fact, is already done in some. Even from the point of view of learning a language, the exercise is extremely instructive. It adds interest to reading. Before curiosity can be satisfied, the sense must be fully elucidated. It leads to more careful reading, because the questions which it raises cannot be answered so long as the precise sense of any word remains in doubt. If it is interesting for the pupil, it is equally so for the teacher; it relieves the gloom of grammatical teaching.

Once the habit of critical reading has thus been formed, it becomes possible to do better work. Pupils ask themselves questions on the subject-matter, not only as to whether they have extracted the full meaning of the passage, but also as to whether the author speaks truly and well. If only they learn not to accept blindly as gospel truth either the statements in the text or the *obiter dicta* of the critic, but to examine the facts independently and then express their opinion for what it is worth, they have made a step forward. The way to approach that result is to accustom them to read in a critical spirit particular passages set apart for that purpose. These must be really typical of their authors. Random selections will not contain "points" enough to make the lesson profitable.

As for the present CHOICE OF BOOKS, the reading professed in schools seems as a whole to be open to a twofold objection: it is deficient in permanent interest, and it is haphazard and incoherent, leading nowhere.

In the junior classes the French books read are in the main rather feeble fairy tales or childish adventures, often related in dubious French. The only merit claimed for them is that they allow children to begin reading at an early age. Juvenile fiction of such calibre is thought to be the only available French sufficiently easy to suit beginners. But it is doubtful if pupils at this stage might not be better engaged in learning once for all the rudiments of grammar, and if they have not a lurking suspicion that their French reading is rather beneath them. Certainly it is not on the same plane as the matter considered suitable to their age in the English class. An erroneous estimate of the educational value of French is thus given. Quite as easy French may be drawn from standard authors, who provide sound subject-matter in addition. In French as in English, readability and permanent interest are not mutually exclusive.

In the higher classes the "théâtre classique" and good modern fiction form the staple food. Serious prose and lyric poetry are little read. It is clear that much of the classical literature is unintelligible without knowledge of the background, which is not always supplied; and therefore, while Corneille if not Racine should be studied, it is perhaps injudicious to prescribe unduly large doses. The vogue of the novel in modern times justifies the choice of fiction, but the preference is too marked. It may be said in a word that the subject-matter of school French is not usually of a character likely to leave a very profound impression on the mind.

Even if each book of the school syllabus were the best of its kind, the reading covered throughout the curriculum would not form an ordered whole. Few of the boys and girls passing out from school have been taken through a systematic course of reading in any way representative of French literature, or been given the framework into which subsequent reading may be fitted. If it is legitimate to assume that books begun are always finished by the end of term, they will form a somewhat heterogeneous library in which light fiction predominates and which is not arranged in any apparent order.

The problem is complicated by the entry of new pupils at various stages and, in the Public Schools, by promotion from one division to another in the course of the year. To arrange a regular cycle which would ensure continuity of reading from year to year and form in the end, as it were, a microcosm of French literature, is admittedly a difficult matter. But if teachers of French would confer, they would be able to prescribe a course which all might follow in a general way, subject to occasional modifications according to individual taste. It would certainly be desirable in the interests of uniformity that there should be some consensus of opinion as to what "French Literature" should be taken to mean. A recognised "corpus," even though less sharply defined than in Latin, would be better than unfettered choice. At present it is impossible to assume knowledge of any given book in a class of first-year University students.

In the meantime, the first step towards reform is to abandon the well-intentioned modern custom of reading in class nothing but complete works. The number of books that can be read in their entirety during the present school course is even in the most favourable cases extremely limited. However wisely chosen, they would leave enormous gaps, and our pupils, looking back on the years spent in the study of foreign languages, might not unreasonably regret having made the acquaintance of so few foreign authors. They might have read "Le Crime de Sylvestre Bonnard" or "Pêcheur d'Islande" and know these excellent books through and through, and yet cast wistful eyes upon—the rest.

The remedy is an obvious, but an old-fashioned one, which has to contend with much hostile criticism—the use of anthologies. In an ideal world and with unlimited time at our disposal, it would of course be right that only entire works should be read at school. It would be fairer to author and reader alike. Dealing with things as they are, not as they might be if the day had thirty-six hours instead of the meagre twenty-four, we may bear in mind that our predecessors had excellent reasons for their extensive use of "Morceaux choisis".

Whoever first applied the damaging term "snippets" to that humble, necessary form of literature did an ill service to the study of Modern Languages. The great masterpieces contain pages that need not be read, others that scarcely deserve to be read. The fame of a book which many praise and few read often depends upon its purple passages. Whoever read the whole work of La Rochefoucauld would be disappointed. The number of his "Maximes" which are masterpieces and are widely quoted is considerable, but, if it were permissible to venture on statistics, that number might be roughly computed at less than thirty. One page of an anthology amply accommodates what are to all intents and purposes the literary remains of La Rochefoucauld. Rousseau's "Contrat Social" was an epoch-making work, but it is not easy to believe that those whom it inspired to revolution had read it from cover to cover. The opening sentence, which rang like a clarion-call through the world, " L'homme est né libre, et partout il est dans les fers," is a model of simple French, but the rest soon becomes cryptic and often makes very difficult reading indeed. Such works must either be ignored at school or else read in parts.

Other great books are not suitable for every one in the complete text. Some, proper enough in themselves, are accompanied by impossible illustrations. A judicious use of anthologies widens immeasurably the field of class reading. It in no wise precludes the reading of complete works; it merely fills the gaps between them with the material necessary for showing their place in literature. Most anthologies reproduce in a convenient form the stock passages which are part of the mental equipment of educated people in the country whose language is studied.

The main subject of literary study in Modern Languages should be modern or contemporary literature, in so far as it throws light on present-day life in the foreign country. The bulk of the texts read should be modern. No doubt the present period cannot be understood without knowledge of the preceding, and so on *ad infinitum;* but the historical retrospect which is necessary should not attain undue proportions.

Such then are the most urgent reforms affecting literature. Let us "read" more and "construe" less. Let us start in our literary criticism, however elementary, not from the general statements of the manuals, but from the passages actually read. If these general statements are true, they are latent in typical extracts, and all we have to do is to teach our pupils to draw them forth. Let the reading at school be chosen as a whole, linking up class with class and providing in the end a conspectus of the foreign literature studied and a general knowledge of the manner of the chief writers. Some of them will thus have been read completely. With others acquaintance will have been made which will ripen later on, if only the habit of reading for pleasure has been formed.

That has always seemed to me the ultimate criterion of success or failure in the arduous task of teaching French. When I inspected the highest class of a school, I first tested, as it was my duty to do, knowledge of the professed books. In nine cases out of ten, they had been carefully studied; but interest in French had been carried no further. Each day's lesson had been duly prepared, and that was the end of French. The books of the class library slumbered in peace. In other schools boys or girls had read in their spare hours quite a number of French books and magazines and had evidently acquired a taste for reading French which they would probably retain for life. The Pons Asinorum which bridges the gulf between performance of the daily task and the voluntary act of reading what there is no compulsion to read, had been successfully crossed. The knowledge acquired was being used. The schools where private reading flourishes are good schools, and those where it does not are—less good.

III. Life

The public has begun to expect of its hard-worked Modern Language teachers more than what can properly be classed under the headings "Language" and "Literature". Knowledge of a foreign language is coming to be regarded no longer as an end in itself, but as a means to an end, namely, intelligent understanding of the foreign nation, its daily life, its outlook, its peculiar characteristics, its national aims and aspirations. In the immediate future, Modern Language teachers will be called upon to interpret to their pupils the foreign country itself and not merely the foreign language and literature.

The war altered the relation of Great Britain to the other nations of the world. It is becoming increasingly obvious that we are now in a very real sense a Continental country, and must familiarize ourselves with our neighbours and with their life and ways. The attitude of splendid isolation which in the spacious days gone by permitted our fathers to ignore their Continental neighbours with composure and even with impunity, is no longer possible. The present generation has painful cause to know that what happens in a remote corner of Europe may soon affect every one of us in life, limb, or purse, that what agitates the minds of men in Germany or in Russia will not take long to agitate ours. We can no longer rest content with the imperfect knowledge of foreign peoples which sufficed till now. Linguistic study is demanded for the prosecution of national interests in trade and commerce, for enlightened solution of European problems, for fuller comprehension of the present and for elucidation of the past.

This new orientation of our studies was only hastened by the war. Our subject always has been in closer relation with real life than others of the curriculum. It deals with living nations whose representatives are frequently seen in our towns, and with countries not far from our shores. Our pupils were well aware that in learning to speak, read, and write a modern language, they were in close touch with throbbing reality. The vogue of the "Direct Method," the custom of sending young people abroad for the summer holidays, which had attained astonishing proportions when it was suddenly stopped by the war, the exchange of foreign assistants in schools—these were all signs of coming change. Even before the war the way had been prepared, and now the view that the study of a foreign language includes the study of foreign civilization meets with ready acceptance.

The only question that remains in suspense is how to give practical effect to this view in our teaching. How are we to convey that miscellaneous information about life in foreign countries which is neither language nor yet literature, though necessary for a proper understanding of both?

Fortunately the need can be met without adding to the programme a third subject equal in extent to the existing divisions, language and literature. All that is required is a slight change in our point of view and the provision of a little special instruction.

The teaching of language will be made to conform with practical necessity. It will be simplified, and shorn of such detail as has no direct bearing on the grammar and vocabulary of daily life. Literature will be studied for the light which it throws on modern ideas. The older periods will be discussed to explain the present. The way towards reform is thus, in the first instance, that indicated in our preceding sections.

But instead of being as hitherto a side-issue, the study of foreign civilization, more especially in its modern and contemporary forms will avowedly be the point on which the multifarious subjects of a Modern Language course ultimately converge.

Incidental explanation of foreign life and ways, which is now prompted by the day's reading and given as it were apologetically, will not only become fuller and more frequent; it will be by common consent one of the main objects of the course and duly tested by examinations. The use of foreign newspapers, illustrated magazines, photographs, picture postcards, gramophones, etc., will be officially encouraged and subsidized. At least some of the reading will be chosen for its sociological, as well as for its literary, interest, for the light it throws on the foreign society of which literature is the outward expression. "Literary" historians like Michelet and Taine, masters of the social novel like Balzac, observers of contemporary life like Romain Rolland, whose diagnosis of the life and character of pre-war France was so strikingly confirmed by events, will be held in higher honour and read in more copious extracts.

In addition to this change in point of view, which affects the tendency rather than the nature of our teaching, instruction in these matters will be systematized. It is admittedly very difficult to *teach* "Institutions". If, on the one hand, attention is confined to general considerations, these are necessarily vague and convey no meaning to pupils who are ignorant of the way in which their own country is governed and know as little about the powers of a Home Secretary as they do about the functions of an archdeacon. If, on the other hand, precise detail is discussed, there is a danger that valuable time will be spent on the modifications which the ages have made on the attributes of a *sous-préfet.* Much might be entrusted to a good elementary manual giving the broad facts and even some figures, but much may also be done by the teacher himself. Every one who has lived abroad and used his eyes and ears, has noted interesting and significant details of foreign life. With these he enlivens the hour, drawing from his own experience apt illustrations which remain in the memory of his pupils when they have long forgotten the application. The information thus supplied would gain by being presented as a whole. At present a class may have been told on several occasions isolated facts or anecdotes about the French Academy or the Théâtre Français and have learned others from stray references in annotated editions, but has probably never heard a connected account of these institutions and of their relation with the national life.

This systematic instruction might take the form of occasional "causeries," naturally very simple and leaving little to the imagination, since they are addressed to pupils who have never been abroad. Personal reminiscences would be supplemented from other sources and fitted into a general scheme. Either English or the foreign language might be used, according to circumstances. English is more direct and avoids the possibility of the little misunderstandings which it is precisely the object of these "causeries" to remove; use of the foreign language teaches the necessary technical words and phrases and creates a suitable "atmosphere".

The basis of all such study is of course the geography of the country. It is assuredly not the duty of the Modern Language teacher to encroach upon the domain of his colleagues, but a preliminary lecture, possibly delivered in the foreign language so as not to arouse susceptibilities, would remove the erroneous geographical notions which often affect our judgment of foreign nations. In the case of France, the fact that it is not always "sunny," that there is not one French climate but seven, or that a very considerable proportion of the land is barren and mountainous, or that the Channel dredges the British harbours and silts up the French, or that coal and iron are seldom found together in France—such things are not without their bearing on national character. Geography leads up to History, without some knowledge of which most foreign authors are partly unintelligible. History proper may fitly be delegated to the teachers of that subject. Despite our keen sense of the necessity for historical knowledge and of the inter-dependence of Modern History and Modern Languages as school subjects, we must really draw the line somewhere and decline to assume the rôle of History teachers. We should therefore rely on co-operation between departments for linking up the whole. After consultation, it would probably be found that much social history and the study of Institutions (government, Home and Colonial administration, municipal and parochial affairs, etc.) can be most conveniently treated in the Modern Language classes.

In the objective presentation of public life we are on safer ground than when we deal with the family. It is, however, possible to show how, e.g. in France the family, and not the individual, is the social unit. Even "la dot," which is the source of so much ill-informed criticism, might be guardedly invoked, as being founded on the principle that marriage concerns not only the happy couple, but also their parents and future offspring, and should therefore be made to conduce so far as possible to the greatest happiness of the greatest number, i.e. the entire family, past, present, and future. The individual in fact hardly counts at all in international comparisons, which must clearly be made between similar social groups in either country. Our pupils are only too apt to contrast the Parisian financier or the decayed aristocrat whom they meet in their reading with the worthy inhabitants of their native town, to the entire advantage of the latter. They do not know many French people, but they are quite sure that the French are all "excitable" or "mercurial". What does this mean, unless that they are repeating the result of observation made by other people, whose eyes were fixed exclusively on members of one social stratum, probably on some overworked and overwrought city dwellers? Considerably more than one half of the French population is rural. It is represented by a Frenchman very familiar to the inhabitants of this country who have travelled by night on the French railways, the lonely figure working in the fields at dawn. Does anybody imagine that figure to be the mercurial possessor of a "high-strung, nervous temperament"? If peasant be compared with peasant, like with like, the results of international comparison will not perhaps be very startling; but they will be in accordance with fact.

While it is desirable that conclusions should be as general as possible, it must not be forgotten that danger lurks in generalizations about whole countries. It is tempting to conclude from isolated facts that the character of a foreign nation can be summed up in a single phrase. But so many qualifying clauses have to be introduced later on that the original statement becomes valueless. It is indeed difficult to begin a sentence with "All Frenchmen are" and end it in a way that will both add to common knowledge and at the same time be true. One is eventually reduced to speaking of "the great majority" or "the proportion per thousand of population," or else of that shadowy, unsubstantial personage, the "average" or "typical" Frenchman. Yet the effort to arrive at general ideas is an intellectual pastime which is its own reward and is clearly a legitimate part of the proposed "causeries".

The spirit in which the foreign nation is discussed should be sympathetic, but it need not be uncritical. To praise indiscriminately everything that is foreign is no part of the Modern Language teacher's task. He has a natural tendency to idealize the subject of his life-work, and memories of past happiness are apt to colour his description of fact. He can no doubt do a great deal in a small way to promote good feeling among the nations. The generous idea, however—prevalent before the war—that to know a foreign country is to love it, and that the diffusion of knowledge in Modern Languages makes for peace, seems, unfortunately, not to bear examination. No nation had made a more methodical study of foreign countries than Germany. It can still be maintained that, if mutual recriminations are as likely to spring from the fullness of knowledge as from ignorance, they are, in the first case, at least intelligent. The essential aim of the Modern Language teacher must be, not to extol foreign culture at the expense of our own, but to draw from it such lessons in the conduct of life as may be useful for ourselves. If some of his pupils, after hearing the case for the other side, remain unconvinced and honestly feel that they do not like either the people or the customs he describes, he has nothing more to say. He must allow for differences of temperament and for the strength of the instinct that classes all foreigners as either potential enemies or else "quite harmless".

What he can and must do is to prevent his pupils from basing their general comparisons on false data or assumptions demonstrably untrue. The bombardment of Paris in the war of 1870-1 was ordered in view of its hoped-for effect on "das psychologische Moment," i.e. "factor". The assumption that it was timed for "the psychological moment" (which straightway became, first in France and then here, a current expression) makes it neither better nor worse, but only shows that *das* was ignorantly confused with *der* Moment. The ex-Kaiser's perfectly constitutional title of Kriegsherr or "Commander-in-Chief" was wrongly, though pictorially, translated "War-Lord". Animadversions on French military discipline which reposed on the fond belief that *un adjudant* was an "Adjutant," or *un brigadier* a "Brigadier-General," were fundamentally unsound. There is at least this to be said for people who habitually use "idiotismes" and on occasion exclaim "Je ne suis pas dans mon assiette!" that in this instance they do not make the remotest allusion to a "plate". Arguments supplied by a blissful ignorance of foreign languages are valueless. When national prejudice is founded on bad grammar, it may none the less be well-founded. But the language teacher's duty is obviously to correct the grammar.

The new orientation of Modern Language studies does not, it will have been seen, unduly augment the programme. Even if it did, the amount of time devoted to them might eventually be increased. To the possible objection that the suggestions made are impracticable under the present examination system, we reply that that system, like all human affairs, alters from age to age and continues not long in one stay. It, too, will be gradually modified to meet the obligations cast on Modern Language teachers by the changed conditions of society.

THE TEACHING OF CLASSICS

By George Smith, M.A.

PROBABLY the study of the methods of teaching the Classics has been handicapped by the predominant position which they long held in the curriculum of a liberal education. Other subjects were, each in its time, newcomers. They had to vindicate their claim to inclusion in the curriculum; and, in order to vindicate it, their supporters had to make clear to themselves and to others what was the special purpose in education which these studies were fitted to serve. The consciousness of this purpose naturally and properly influenced the consideration of the methods of teaching; and the teachers were not hampered by any time-honoured practices that had outlived their usefulness. In dealing with these subjects it was natural that a teacher should feel himself bound to think out his methods and free to try new ones. Thus, in the teaching of Natural Science within the last twenty years or so, the application of the heuristic principle has been reasoned out, formulated, put in operation, exaggerated, modified, and is now in a fair way to be co-ordinated, not unsatisfactorily, with other principles that cannot be disregarded.

It is different with the teaching of Latin and Greek. For long they did not have to justify themselves. They were accepted as essential subjects of a liberal education. As their position was not challenged, their supporters were not compelled to analyse their use and define their function. This lack of a conscious well-defined purpose naturally reacted on the methods employed in teaching, and made for conservatism. And so the teaching of the Classics came down to us trailing with it a long tradition of method, some of which was outworn, and laying itself open to charges of conventionality and gerund-grinding and general effeteness. These charges are, of course, not nearly so justified nowadays as they were thirty years ago. The "fierce intellectual life of the century" did not leave Classics quite untouched. The keen questioning of all educational aims and methods did not fail to modify the methods of classical teaching. M. Arnold's summary description of school classics as "longs and shorts" is now nearly unintelligible; and much of the criticism now aimed at the teaching of Classics is as out of date as is a refutation of the geocentric theory of the universe.

For general purposes of discussion the old classification of the possible subjects of the curriculum into Natural Sciences and the Humanities will serve us well enough. It is not indeed logically faultless. The two classes of subject are not mutually exclusive. Much Humanism is taught in Natural Science, and much Natural Science is taught in the study of the Humanities; and some subjects—Geography for instance—obstinately refuse to be classified as exclusively scientific or exclusively humane. The division, too, is not exhaustive: it does not cover the whole possible field of educational activity. But it is in the main a sound and useful division.

We may perhaps also assume that the general aim of education is to secure and promote adaptation between man and his environment. That, at any rate, seems to be the least question-begging of all the definitions that have been proposed, and may be accepted provisionally as a not unworthy, though perhaps not a complete, statement. The division of labour then between Science and the Humanities is obvious. It will be the aim of scientific education to secure and promote adaptation between man and his environment of natural facts; and it will do this mainly in two ways, first by communicating knowledge of such facts, and secondly, by training the pupil to use accurately and intelligently the instruments for further discovery. It will be the function of the Humanities to enable the pupil to get into right relations with men; and it will do this mainly in two ways; first, by communicating knowledge of the facts of human nature, its thoughts, its emotions, its history, and secondly, by training the pupil to use accurately and intelligently the main instrument of all communication of ideas and emotions, namely, language.

That is the broad general description of the aim of all humanistic teaching. The inclusion of any humanistic subject in the curriculum must be justified on the ground that it helps to reveal to the pupil some aspects of human life which it is valuable for him to know, and which he is capable of knowing, and that it helps to train him to use language with intelligence and accuracy. We all admit that the English language and literature has the first and most undoubted claim to inclusion. But, if we are restricted to our own language and literature merely, we shall be narrow and insular; we shall intensify in ourselves the natural tendency to consider our national modes of thought, emotion and action, as the normal modes of humanity. We shall be like men who have only known and dealt with members of their own family, and who think that the family point of view is the only natural and normal one.

Nearly everybody therefore recognizes that it is a desirable thing, if it is possible, for the pupil to make acquaintance also with some foreign language; and a place in the curriculum is readily conceded to the language and literature and history of modern nations. These tell us of the life and spirit of our contemporaries, of those men with whom we may have to deal personally, and of those nations with which our own nation does actually have to deal. The economic and political value of this knowledge is manifest; and in addition to this there is also the intellectual value of the contribution that modern nations make to the world's thought, and the ethical value of the increased sympathy that understanding always promotes. There is little fear that modern humanistic studies will be undervalued in the future.

What are the special features of classical study that give it a claim to have some place in the education of the young? First there is the acknowledged value of the content of classical literature. We cannot thoroughly understand the present unless we also understand the past. Much of what we are and think comes to us by inheritance; and, whatever may be our physical ancestry, there is no doubt that in the matter of ideas, political, philosophical, and æsthetic, we hold mainly of Greece and Rome. We have not yet exhausted all that they can teach us. Aristotle and Plato are still inspiring and illuminative in the realm of politics and philosophy. It is true that the problems of politics are much more complex now than they were in their day, and that our range of knowledge is immeasurably wider than theirs was. Their city state was small, and the difficult practical problems of fair representation, of the satisfactory organization of local government, of the adjustment of the claims of nationalism and internationalism hardly arose. They accepted slavery as a natural institution, and slaves as natural instruments for the satisfying of economic needs; and so their example does not help us greatly to solve our complex modern problems of economic adjustment and co-operation. But, in spite of all this, their fundamental ideas are still the ideas to which we must recur again and again if we are not to be blinded and bewildered by the complex details of modern life and of practical problems; and these ideas, when stated in their original setting, with their original background of life and thought, are infinitely more dynamic than when they are extracted, rewritten, and presented in a textbook of political philosophy. *ἄνθρωπος φύσει πολιτικὸν ζῶον* will save us from any unscientific individualism; *ἡ πόλις, γιγνομένη μὲν τοῦ ζῆν ἕνεκεν, οὖσα δὲ τοῦ εὖ ζῆν* will keep our conception of the function of the State ample and generous; and the ideal of a perfect State moving on ordered lines to a clearly conceived end of righteousness will haunt us with the unconquerable hope *ἐν οὐρανῷ ἴσως παράδειγμα ἀνάκειται τῷ βουλομένῳ ὁρᾶν καὶ ὁρῶντι ἑαυτὸν κατοικίζειν.*

This is only one aspect, and not perhaps the most important, of the content-value of classical literature. There are many others, chief of all perhaps the poetic value of Homer and the dramatists, of Vergil and Horace and Lucretius. These have an undying worth, and any substitute for them has only the pale, reflected, mocking value of a mimicry. There is no need to labour the point. While it is admitted that in the nature of things not all can have access to these pure sources, it must also be admitted that it is good for those who can—"iuvat integros accedere fontes"—and that something of what they gain there will inevitably pass on to the rest of the world. It will be one of the aims of classical teaching to introduce the pupil to the literature, and through the literature to the life and thought of the Greeks and Romans; and that aim will be one determining influence in the choice and use of methods.

But there are not many who learn to read Plato with their feet on the fender. Indeed, of all who make a beginning in Latin and Greek, there are only a small number who reach anything like a working knowledge of the languages and a moderate acquaintance with the literature. It is a frequent criticism of the teaching of the Classics in school that it so often leads nowhere, and that the pupil so often most willingly stops short before he learns anything that is worth learning; he has had all the preliminary drudgery, and has gained none of the promised reward. So far as the actual knowledge of literature is concerned, the criticism is not unjust. But it is a criticism that can be applied to many more subjects than Latin and Greek. The teaching of Natural Science, too, in schools, in spite of the fact that economic necessities and everyday familiarity with the phenomena to be studied exercise a constant pressure on the majority of men, does not always, perhaps not often, result in a sound working knowledge of the methods, or a satisfactory acquaintance with the results, of science. Of all who learn French and German at school, though there are a large number who can make a certain use of those easier tongues, there are few who really attain to a sound knowledge of the literature and an adequate understanding of the life and thought of those nations.

It will be admitted, however, that the positive knowledge of Greek and Roman life, and the practical command of the languages that is gained by a pupil, is much smaller than the attainment that would have seemed to reward a similar effort in the sphere of modern languages. That is in part unavoidable. The structure of the Latin and Greek languages is so much more alien to us than that of French and German; the nature of the civilization is inherently so much more unfamiliar; the opportunities and necessities of learning about them are so much less present and urgent, that it would be strange if the average pupil gained as great a knowledge of them, or was led to follow up his study of them as naturally, as the same pupil would do in French or German. At the same time, some of the failure to gain such positive knowledge has been undoubtedly due to imperfections in the method and spirit of classical teaching; it can be in part obviated by better methods; and the first and greatest step to finding these methods is simply the recognition by the teacher that this is part of his aim.

But the content-value of the literature does not form the only claim that Latin and Greek have for inclusion in the curriculum. There is also the value of the study as a training in the use of the main instrument of human communication, language. Such training can be given, and is mainly given, by actual practice in the actual tongue of the pupil. But a knowledge of the vocabulary and structure of several other languages is a most valuable, perhaps an indispensable, help to correctness and richness and flexibility of style. The modern languages have their value in this direction, but it is claimed that a training in the use of the classical languages suggests and fosters, in a higher degree than modern languages do, a careful, accurate, and conscious use of language as an instrument of precision, and compels the student to look behind words to the meaning of them. Greek and Latin are highly inflected languages. The student finds that apparently trivial variations in the forms of words have their significance, and that failure to note such variations and their significance results in failure to understand. He also finds by experience that a scrupulous attention to all the linguistic data that are presented to him is rewarded by a sureness of apprehension at least of the structure of the sentence. Slipshodness is penalized, accuracy is rewarded, more conspicuously and convincingly in dealing with the classical languages than in dealing with the modern. So the value of accuracy in dealing with language comes to be appreciated, and the student, by a conscious or an unconscious step, infers or assumes that accuracy in observing and interpreting data is valuable in all processes of thought. Of course, accuracy is not a habit that will function automatically. That is an erroneous way of putting the matter. Habits only function automatically in the sphere in which they are acquired, and if accuracy were a mere habit, it would react only to the stimuli that brought it into being. The Latin scholar who is stimulated automatically to accuracy by the sight or sound of a Latin sentence would not necessarily react automatically to a similar stimulus in the realm of Natural Science. He might even be accurate in Latin and inaccurate in Greek. He might; but he never is. He is a reasonable being, and therefore he cannot help reasoning and inferring. From his experience that accuracy is most important in the interpretation of language, he infers that it is probably equally important in other fields of mental activity. He therefore tends to be accurate, consciously not automatically. His accuracy functions not as an automatic habit, but as a conscious ideal of method. It is this fact probably that has caused more than one teacher of natural science to say that the pupils who have had a training in the classical languages generally do better when they take up science than others who have not had such a training.

Another advantage that is gained by the study of Latin, and in a much smaller degree by the study of Greek, is that the student becomes more accurately acquainted with the vocabulary of his own tongue. It is quite true that in our language, as we generally use it in speech and writing, words of native origin occur most frequently. The basis and framework of our speech is native English. The pronouns and prepositions, the names of homely and everyday things and of simple emotions—these are native English, and these naturally occur again and again, and make the usual texture of our speech predominantly English. But of the sum total of words that are to be found in an English dictionary, probably about two-thirds are of classical origin. And as a rule it is just those words of classical origin that we must and do use whenever we have to discuss the more complex questions of modern life—natural science, philosophy, politics—or to deal with the more subtle analysis of human consciousness. So here again accuracy of modern speech and of current thought is promoted by the study of the Classics. But this is not all. It is not merely as a working instrument for everyday and commonplace needs of thought, and for scientific and philosophical study, that a knowledge of the classical element in the English language is important. It is also indispensable for an adequate appreciation and understanding of the beauty and the truth of much of our best literature. It will not merely enable a man to read with intelligence the articles in current journalism and to make the necessary corrections for vagueness and inaccuracy; it will also give him a richer and a truer interpretation of Milton and Shakespeare.

These then are the two main aims of the teaching of the Classics—to introduce the pupil to a literature the content of which is intellectually valuable for a knowledge of Western civilization, and æsthetically satisfying to the desire for beauty, and to train him in the use of language by acquainting him with the main sources of the English vocabulary and by making him familiar with an ideal of accuracy and definiteness and attractiveness in expression. The methods of teaching will be conditioned mainly by those aims, and by the nature and capacity of those who are to be taught. There are, indeed, other conditions which in practice cannot be disregarded—the requirements of examinations for instance—but these are not inherent in the nature of the problem, and if the broad lines can be laid down for teaching in accordance with these aims and with the capacity and opportunity of the pupil, the necessary practical modifications may be left to the individual teacher.

It is no easy matter to combine these two aims in the earlier stages of the teaching of the Classics, or to decide in what proportion each aim should be provided for in our methods. It is quite true that our methods must be based on the pupil's interest, but that phrase tends to become a catchword and to be used to justify soft options and temporarily attractive subjects. Presumably a boy's interest in the broadest and most fundamental and objective sense is that which makes for the security, fullness, intensity, and satisfactoriness of his life. But his subjective conception of what is his interest does not always or often correspond with the actual fact. He is interested, it may be, in butterflies or aeroplanes or football, because the study of these adds at present to the fullness and intensity of his life. He is not interested, it may be, in learning the English alphabet or the Latin declensions, because he does not see how these can contribute later to his security or his happiness. But older and more experienced people may know that it is to his interest to learn those things, and, in order to give him an impulse towards them, they introduce competition, and rewards and punishments. In this way they do make the boy's happiness to some extent dependent on his learning the declensions. But the interest thus created is artificial and arbitrary. It is not native nor rooted in the nature of things. It is bound to lose its grip as the boy grows older; and, unless he has come to feel for himself the intrinsic interest of the subject, he will make no further progress.

It is advisable then that the real interest of the subject should be from the beginning made apparent to the boy and kept conspicuously before him as far as circumstances and his own power of understanding allow. That implies in the first place that the teacher must himself feel the essential and native interest of the subject. If it has to him only the conventional and factitious interest that our present system of education happens to have given it, his teaching cannot stimulate or lead to larger views. No man can communicate what he does not possess.

But, if the teacher himself feels the value of the literature, the problem of communicating that feeling is in great part solved. His success will depend not so much on the actual facts which he teaches, or on the order in which he teaches them, but on the spirit in which he teaches and the infective and suggestive power of his personality.

If he is beginning Latin with a class, he will of course try to show them the human interest of the study. He will tell them something of the history of Rome and of the character of the Roman citizen, something of the Roman Empire and its influence on Western civilization, something of Latin literature. Some of the great men will be named, and some of the great periods (e.g. the second Punic War) will be talked of more fully. As soon as the class is able to read, the reading matter will be illustrative of Roman history and Roman life. Some have thought that the pupil's interest is more likely to be aroused if the reading matter deals with modern life and modern conditions—describes, it may be, the things with which the pupil is already acquainted, and puts modern facts in an ancient form. No doubt this will make a certain appeal to the pupil. He is surprised that the thing can be done, interested for the moment in seeing it done, but fails to see why it should be done, and so fails to find any increasing value in it. The interest therefore wilts and withers. The appeal is essentially a temporary one. It is better if the matter of the reading, even at the early stages, can be provocative of real interest in the life and thought of the Roman nation.

At the early stages, however, and with young boys, say of twelve years, this intrinsic interest of the subject matter cannot take a large place, and they cannot at that stage make any great advance in actual knowledge of Roman life. What we can do with most of them is to initiate them into the conscious use of language as a fairly precise instrument of communication. But to what present interest of the pupil does this appeal? He is not yet conscious of the need of any command of language. It seems to him that speaking, if not reading and writing, comes by nature, and he sees no need for the intrusion of art. But, after all, that is also his view as to the exercise of his other natural powers, such as running, and if in the early stages of his education we had to appeal to his reason to supply a motive for the training of his bodily powers, our appeal would be weak. But the play-instinct comes strongly into operation at these stages—the instinct for exercise not consciously directed to any useful end, but pursued and enjoyed for its own sake, and this instinct gives us, even in the teaching of Latin, at least a natural fulcrum for our lever. In the early stages the lessons are games. They have definite rules which must be known and kept: so have all good games. They require effort, which has no obvious reward: so do all good games. Some boys will not care for them; but there are some, too, who do not care for cricket. It is possible, perhaps easy, in practice as well as in theory, to push this play-principle too far. But the instinct does exist, and it is well to recognize that at the early stages of language-learning it is perhaps the most vital motive which can be used.

In the first year or so of Latin, the main object will be to give the pupil training in the art of language, using his play instinct as the intrinsic motive for effort. For some pupils this period will be preparatory for a fuller study of the ancient civilization; for the majority it will be mainly an exercise in expression. At the end of their study they will not have learned much of Roman history or Roman literature, but they should have had some glimpses into it, and they should have gained some conception of precision and accuracy of expression.

In the first stage of learning the language, an adequate amount of time should be apportioned to the study. It is best to begin with a spurt, give at least one lesson a day, possibly more. By doing this, the initial play impulse is used when, because of the novelty of the game, it is at its strongest, and the necessary drudgery of memorizing is not made unnecessarily tedious.

The accidence and syntax that is learned at that stage should be of the simplest and most normal kind. The normal forms of the declensions and the most important parts of the conjugations are enough to enable the pupil to read an easy text. Abnormal, exceptional, and infrequent forms may be left until the need for them is felt. This does not imply that formal grammar will be neglected, but only that it shall be taken at the proper stage of the pupil's progress. To accumulate a heap of grammatical forms without any present and near use of them being apparent will spoil the game: it is as if one should substitute for real football, however unskilfully played, a series of carefully methodized physical exercises which are calculated to make a boy into a good footballer at twenty, if his interest survives till then.

The reading of some continuous text will be started as soon as possible. A real unmodified Latin author is, of course, too difficult for beginners; but there are numerous simplified texts from which a choice can be made. So long as the style is simple, the subject-matter interesting and germane to the language, and the passages short enough to provide variety, it does not greatly matter whether the basis of the first reading book is Cæsar or Nepos or any other historian or story-teller.

One of the great difficulties of keeping up the pupil's interest in such reading is the smallness of the amount that he is able to cover in a lesson. A few sentences at most are all that he can be expected to do; and even if his interest has been initially awakened in the matter, it is hard for him to keep it up, and to piece together these snippets into a continuous whole. This is a grave disadvantage, and one very hard to overcome. But we may note again that it is not peculiar to the teaching of the Classics: it occurs also in the teaching of modern languages and of English. It is hard for a pupil to feel any continuous thrill even in the adventures of D'Artagnan when one, or at most two, pages at a time of the story can be read. It is hard for him to maintain his interest in the character and destiny of Macbeth if there must be a gap of a week between Act I. and Act II. This is a difficulty inherent in the nature of the task. We must have interest, and we must inculcate accuracy, and it is hard to combine these at this stage of knowledge. In English something can be done by combining rapid reading of certain books with intensive study of others. Even in English this does not annul the difficulty, but only alleviates it. The snippets read still remain snippets; but the wider reading constantly reminds the pupil of the larger interests which the literature satisfies, and his more accurate study gains a reflected significance in his growing consciousness that it will help him to appreciate that literature. That at least is the hope; and an enthusiastic teacher who himself feels keenly both interests—the interest of the literature, and curiosity about the use of the instrument—need not despair of being able to combine these in his teaching.

In the Classics it is practically impossible to follow this lead exactly. It is not possible to read rapidly with a class large masses of Latin and Greek, no matter what degree of slipshodness we allow ourselves. But we can tell them, or read to them, in English the story that is told in the original. We can talk to them about it, discuss the campaigns of Cæsar, or the generalship of Hannibal, and so keep always alive and growing in them the consciousness that all this effort is for an end worth winning.

There are no methods or devices which are sure to overcome the difficulty. All we can do is to take every opportunity of showing our pupils that what they are reading is literature, that it tells the story of men who actually lived and thought and felt, and, above all, who talked sense and wrote what is really intelligible for those who will make the effort to understand. This is in some ways one of the hardest things for the beginner in Classics to grasp; and even the old and experienced teacher feels a fresh shock of dismay each time that he finds that his pupils—even the intelligent ones—show him up as the translation of the text—not the wrong sense, that would be almost welcome—but sheer nonsense, in the hope presumably that it may have some hidden meaning for the examiner.

The management of the construing lesson at the early and the intermediate stages of a pupil's study is of great importance. No hard and fast rules can be laid down for it. Some teachers will, in their methods, lay more emphasis on the intrinsic interest of the work, some on the play-instinct with the sense of present power which it brings. But one or two suggestions may be made.

There are certain comparatively mechanical rules for construe which the pupils are generally told to follow. They are to look for the principal verb, see from its form and termination what must be the number and person of the subject of the sentence, see from its meaning whether it takes an object, direct or indirect, and so on. These are sound rules on the whole and cannot be neglected with impunity. But the teacher will not be content with formulating them and insisting on the pupil's following them. He will not merely allure to brighter worlds of ordered sense; he will himself lead the way. That is, he will to begin with seldom set a passage for construe without going over it first with the class, and showing them how to make out the meaning and how to try to turn it into English. This process will give him many opportunities of rationalizing the work, of connecting it with what is already known and familiar, and of enlisting the ingenuity of the pupils. Most boys, when they are set down by themselves to make out a new piece of construe, arm themselves at once with a dictionary or a vocabulary. Whenever they come on a word that is unfamiliar at first sight, they look it up in the dictionary; if they are conscientious, they copy into their "word-list" the first meaning they find. When they have done this for the whole passage, their duty is ended and the responsibility for the sense lies on the author and the teacher. This is all wrong. There is nothing to be said in defence of the "word-list" system of preparation, except that it is for the teacher an easy and comprehensible way of testing whether the pupil has done any work at all. But it demands the minimum of thought. It attaches itself to no conscious interest of the pupil, and so, having no root in his personality, it cannot grow.

The construing lessons, rightly handled, will always be a series of demonstrations and of exercises in arguing from the known to the unknown. Each passage will be attacked at first as one attacks an "Unseen". If there are unfamiliar words we shall not look them up at once in the dictionary; we shall first explore all possible means that are within our knowledge in order to find out or to conjecture their meaning. We shall break up compounds, see what is inflexion and what is stem, try to think of cognate words in English, examine the context, so far as we know it, and see if it does not point to some inevitable meaning. "*Iter per Alpes patefieri volebat.*" The words are all familiar except *patefieri.* But *fieri* is known; and probably *pate* is the stem of a word formed into a compound with *fieri.* It may possibly be recognized as the root of the English word "patent" (more probably, I fear, it will be guessed to be akin to "patient"); and incidentally the history of the word *patent*, and *letters patent* (possibly with the contrasted meaning of *latent*), will be elucidated. But suppose that it is not known by any of the class. Then we make sure first of what we do know in the sentence, and conjecture the meaning of *patefieri* from the context. From the form of the passive infinitive we find that the sentence must run: "He wanted a road to be —— through the Alps". From the known meaning of *fieri* a natural conjecture is *made*. This will do temporarily in default of a better. But a further examination of the context shows that it does not mean *constructed*, *engineered*, but only *made possible*, *practicable*, *usable*. Having got so far, we try again this enigmatic *pate*. It refuses to yield its meaning. In that case we take provisionally as our translation: "He wanted a road to be made through the Alps," and note that *patefieri* must be looked up in preparation and the exact meaning discovered. This is a method which challenges the powers of the pupil; it calls mainly for conscious exercise of the reasoning faculty and only secondarily for mechanical memorizing. It has the attraction (I admit in an attenuated form) of a detective story; and the solution, when found, is of more abiding interest than the discovery of the criminal.

From the very first, stress will be laid in the translation lesson on the importance of trying to find a good and idiomatic English equivalent for the original. One of the two main purposes of the teaching of the Classics is to train the pupil to use language correctly and effectively, and this purpose will be in great measure thwarted if we are content with clumsy, unnatural, and unidiomatic renderings. When we come to teach Latin prose composition we do not accept "Erat super custodia" as a satisfactory rendering of "He was on the watch". We expect the Latin to be such as would seem natural to a Roman. And yet unnatural English is too easily and too often accepted when we are translating from Latin. "Tantæ molis erat" becomes, in its final English form, "Of so great a work it was"; and the culprit who is responsible for this monstrous phrase gets his sense of style blunted instead of sharpened, and has found one more proof to satisfy himself that these Latin authors did not write sense. For, until a man has found an adequate expression for an idea or an emotion, he has not yet fully understood the idea or clearly felt the emotion. Even if the rendering which we have finally to accept is not entirely adequate (what rendering of any noteworthy thought ever is?), yet if it is a natural phrase which does not misrepresent the meaning, and which is felt as sense, appropiate to the context, and consonant with the mood of the writer, the pupil in looking for it has had some training in style and in finding it has found one more indication that the classical writers did write sense. The advance to "So great a task it was" may seem small, but, especially if the pupil has been led to make it for himself and has not merely accepted it from the master, it is an advance of immeasurable importance.

This training in the use of English is of more immediate and obvious value than training in the actual use of Latin and Greek. Indeed, the practice of Latin and Greek composition generally seems to need to be re-valuated in the light of our modern conceptions of the aims of classical study. In earlier ages Latin was still in actual use. It was by the use of Latin that a thinker could hope to appeal to readers outside of his nation; and Bacon wrote some of his works in Latin and had others translated into it in order to secure, as he thought, their longer life. "These modern languages will at one time or another play the bank-rowte with books." It was the language of European diplomacy; Milton was Latin Secretary to the Commonwealth Government. In those ages then the ability to write Latin prose could be of direct and practical use, and the methods of teaching were naturally conditioned by the aims.

Nowadays there is no such direct and practical use in view, but there remain two important reasons for teaching composition. First, it is taught as an aid to the satisfactory and accurate understanding of the language. Its value for this purpose is obvious, and experience shows that accurate familiarity with the ordinary constructions of a foreign language cannot be easily or naturally gained merely by repeated encounters with these constructions in the authors that are read, and by finding the theoretical rules and reasons to justify these constructions. Actual practice in the use of them is also necessary. In art, as in conduct, no practical maxim is ever thoroughly known until it is practised, and the appeal to experience shows that mastery of a foreign language is impossible unless the student of it exercises himself in the actual use of it. If one were to try to learn French merely for reading purposes, with no intention of using the language as a medium of communication, and no obligation to pass an examination in it, one would still find it necessary to practise the use of the language in order to understand it. This necessity is even more cogent in the case of languages which are in a much greater degree than French alien to ours in structure and idiom. There then is one valid reason for the practice of composition.

But the practice of more advanced prose composition in Latin (and in a smaller degree in Greek) has a second educational value which is difficult to overrate. It lays on the student the necessity of understanding clearly the passage which he is set to translate. It opens his eyes to the fact that in much of his own reading in English he has been too easily content with a vague, indefinite impression, sometimes actually misleading, more often simply confused. He is, as we possibly all are, too familiar with abstract expressions, and mistakes his familiarity for understanding. We cannot get away from these abstract expressions in modern speech ; we could not do without them in our thinking. They sum up briefly the results of thought exercised on groups of concrete facts. They are easy to repeat. They are almost fatally easy to use, and fatally attractive by their philosophic appearance. But unless we remind ourselves again and again of the concrete facts which they represent, we find ourselves at the mercy of vague formulæ which have no known content and therefore no clear and well-defined significance. There is no intellectual exercise which so imperatively compels us to find out the meaning of a passage as the exercise of turning it into Latin prose. We do not find this compulsion in the practice of the use of modern languages. These languages are too like our own and have the same prevalence of abstract expression and the same facility for concealing from the reader that he does not know what the writer is talking about. We can often translate fairly from English into French without grasping the meaning; but the way from English into Latin can only be found by following the meaning. "Professions of patriotism are become stale and ridiculous;" little but mechanical effort is required to turn that into passable French: "les professions de patriotisme sont devenues caduques et ridicules"; but little has been gained by the exercise. To turn it into Latin one must first analyse and understand the ideas. And even if one fails finally to give the thought a satisfactory Latin dress, the effort to do so is itself of intrinsic value, for it has challenged the reasoning faculty and not the mere mechanical memory, and it has helped to familiarize the pupil with the ideal of making sure of the content of his abstract words.

These two values of composition are established beyond a doubt. But we must note also the limitations under which it can be useful. First, there is the limitation that for some boys even the elementary practice of such composition makes little or no appeal to their sense of interest, and elicits little or no effort that is of any value. Most schoolmasters are familiar with the kind of boys who "can't do Latin". Their malady is not always correctly diagnosed by themselves or their parents or their schoolmasters. Sometimes they could, if only their interest were properly evoked by other methods. But sometimes there are really such boys; and the only thing to do with them is to drop Latin as soon as it is seen that they are incapable of getting out of the study any good commensurate with the time spent on it.

In the second place, the value of composition is limited by the definite purposes that it serves. We have seen that these purposes are first, to secure such a command of the language as will enable the pupil to read the literature accurately and with understanding, and secondly, to educate the pupil generally in the conscientious use of his reason. It is no part of our purpose to enable the pupil to use the language as a medium of communication. Nor is the writing of Latin or Greek an end in itself, and if we treat it as such, it loses almost all its natural connexion with those broad and general interests of human culture with which in school education we should always keep in touch. The penalty for forgetting this is that college exercises become parlour tricks, and are not unreasonably despised by those whose interests are more positive.

Finally, useful as the practice of composition is, it is not the only thing that is useful in the curriculum, and in determining the amount of time that shall be spent upon it, we must take into account the value of other exercises and studies, and see that this one does not get a larger share than it deserves.

There is little doubt that in the teaching of the Classics too much time and attention are still generally given to composition. This is due in part to the tradition of method that has come down to us; we are still inclined to treat the Latin and Greek languages as if they gave us a valuable medium of communicating our ideas, when we should frankly recognize that their chief value is to enable us to understand the thoughts and emotions of those who wrote in these tongues. It is partly due also to the conditions under which classical scholarships are awarded at the Universities. In the examinations for these, composition of Latin and Greek, prose and verse, plays a very large part, and the temptation is great at school to spend on them a disproportionate time in the higher classical forms, and, in preparation for that, to pay too minute attention to them in the earlier stages of study. This state of affairs is not so easy to remedy as it seems. The composition test is attractive because, broadly speaking, to be able to use a language is a fair proof that we know it. If a man writes good English, it is a pretty fair proof that he has read good English, and has gathered somehow a knowledge of the rules and customs of its use. If he writes good Latin, he has probably read good Latin. All that is quite true; and yet we feel that the thing has somehow got out of perspective in classical education, just as the writing of "essays" for the sake of style can so easily get out of perspective in English education; and we need to be recalled to the fact that fullness of knowledge and clearness of thought and richness of emotion are what we are ultimately striving to secure. Perhaps some day it will be possible to test progress in these by some method that will not put such a premium on mere dexterity of expression.

The construing and translating lesson is the central thing in the early stages of school work. The grammar and the composition of the early stages are ancillary to the work of translation; and knowledge of grammar and skill in composition should never be treated as ends in themselves. It is true that the mere translation is also not an end in itself. But in the hierarchy of ends and means, it stands higher than the merely linguistic exercises, giving significance and value to the work in grammar and composition, and getting significance and value from its usefulness as a means to ampler and more accurate knowledge of the life and thought of men.

But it is a slow business, this process of studying the Classics. Is there no shorter way? Can we not reach the ultimate goal of learning about Latin and Greek civilization and literature unless we follow this old, and difficult, and sometimes tedious path? Why not use translations? There is no valid reason why we should not. Sometimes they can be used to supplement the small amount of reading that we can cover in class, to lend unity to detached passages, or to give a background to isolated pictures. Sometimes they can be used as models and helps for the work of translation. Much can be done by the appropriate use of translations; but there are some limitations to their usefulness which should be clearly understood. First, translations cannot of themselves give a reader all that Latin and Greek literature have to give. They cannot reproduce the structure, the rhythm, or the associations of words, the stately sonorousness of Latin or the flexible ease of Greek; and without these the thought is maimed, the emotion is imperfect. Statements of a very abstract kind in any language can indeed be restated in another language without appreciable loss. Euclid loses little by translation. But thoughts and emotions that touch actual human experience more closely can never be adequately translated at all. The expression is an integral part of such thought and emotion, and cannot be sundered from it without loss. It may be said that Keats imbibed the Greek spirit not unsuccessfully from translations. That is true enough; but we are thinking of the average man, not of the exceptional genius; and it might be worth noting even of Keats that possibly his conception of Homer was more "loud and bold" and generally Elizabethan than the spirit and form of the original would warrant. In any case one limitation of the value of translations is clear: they cannot serve as substitutes for the original.

A second limitation to their use is found in the fact that they are often so difficult to understand and so dull to read without the aid of the original text. This dullness is not inevitable. When it is not inherent in the original, it can be overcome by the native vivacity of the translator and his command of style and idiomatic English. But the general dullness is undeniable. There are few non-Latin readers who could persevere to the end of a prose translation of Vergil, and the charm of a verse translation is not the charm of Vergil. This is a discouraging dilemma. It is easy to press it too far; but it does seem to suggest that translations cannot often be used to awaken and satisfy interest. They seem more often themselves to depend on the interest and understanding that comes from study of the original.

Lastly, the translations cannot usefully be employed as helps to the construe, i.e. as cribs. This employment thwarts almost entirely the training in reasoning and in the use of language which is one of the two main aims of teaching the Classics. It appeals to the memory more than to the reason. It does not advance the student appreciably on the road to a working mastery of the language. One book of Homer, carefully and analytically studied and construed, will give the pupil much more familiarity with Homer's language, and much greater power of understanding and appreciating him, than half a dozen read easily and without effort by the aid of a translation. This is possibly a controvertible statement; but I think that the experience of those who have tried will bear out the truth of it.

The general conclusion then would seem to be that, while there is a real use for translations in classical study in schools, that use has several serious limitations, and is subject to several serious dangers. The same is true of the practice—a good one if properly used—of reading rapidly in the original, and translating approximately, large masses of literature which there is no time to study carefully, and which perhaps hardly repay careful study. The main objection which I have found to this is that it is so difficult to do. It is not easy in modern languages; it is far harder in Latin and Greek, and perhaps it is only with the more advanced pupils in school that this method can be successfully practised.

There is no short cut to the knowledge of classical literature. The road could possibly be made more attractive than it often is. If the teacher has himself a clear conception of the aims of classical study, he will select for himself the methods that enable him to secure these aims with the pupils whom he has to train. If he has a real personal appreciation of the value of classical literature, that appreciation will be manifest and will communicate itself to his pupils by spiritual infection and suggestion more than by the virtue of any methods. But classical learning will always require of the learner a certain amount of drudgery, a certain amount of faith, and a strenuous effort in the art of thinking and expression. *χαλεπὰ τὰ καλά.* It is worth the effort.

THE TEACHING OF MATHEMATICS

By A. W. Lucy, M.A.

MUCH of the elementary mathematical work in Secondary Schools has to be taught by non-specialists, many of whom are unfamiliar with the higher branches of the subject, and, as a consequence, the work of the specialist who takes the advanced Mathematics is often rendered more difficult, since he has to build on foundations different from those which he would have laid himself. It is essential, therefore, that the junior work should proceed on well-defined lines and that the methods adopted in teaching this junior work should be such that they will lead up naturally to the more advanced work.

In the majority of Secondary Schools free-place scholars are admitted at, approximately, the age of twelve, and by this time the elementary work in Arithmetic has been done in the Elementary School. The methods used are often not the same as those employed in the Secondary School and there is need for some machinery to bring the two into line. In this district an Association of Heads of Schools—Secondary, Technical, and Elementary—has been formed to discuss methods of teaching various subjects which are common to the schools, so that the pupil may be able to glide more smoothly from the Elementary School to one for higher forms of education.

The aim of the teacher of the lower work must be to make his pupils completely familiar with his portion of the mathematical work of the school in such a way that when they pass on to higher work what they have learnt will be of real help to them.

The Science of Mathematics is the science of quantity, and the teacher of Mathematics is fortunate in having, to help him in his work, a wide field taken from the daily life of his pupils from which to draw concrete illustrations. There is no excuse for the work being uninteresting even to the pupil with the non-mathematical brain. Great strides have been made in comparatively recent years in making the subject as taken in schools more interesting and more practical, with certainly no loss in educational value, and the only handicap at the present time is that some examiners have failed to keep pace with the rate of progress. In preparing pupils for some examinations to be taken at the age of sixteen, approximately, it pays better, from the point of view of obtaining good results only, to keep the pupil at Arithmetic, Algebra, and Geometry rather than to give him the broader and more valuable training which is now advocated and by which, in addition to a quite satisfactory knowledge of the three branches mentioned, he has a working knowledge of the elements of Trigonometry, Mechanics, and the Calculus at the same age. Formerly the time was spent on Arithmetic, Algebra, and Euclid; but the Geometry has already been simplified, and certainly less time need be spent on formal Algebra, so that time can be found for the other subjects.

Before proceeding to deal with the various branches in detail, perhaps some general remarks on home-work will not be out of place. Possibly nothing requires greater care than the setting of home-work. It should be remembered that pupils have had a hard day's work at school and that their brains are less active as the day proceeds: this can easily be demonstrated by setting the same test at the beginning and at the end of the day. It is far better, therefore, to set questions of the problem type to be done in school rather than for home-work, and another advantage of this is that the keen pupil is apt to spend too long over a problem unless under supervision whilst the less keen one merely lets it slide. The work set should, I think, be either to learn something which has been very carefully explained or simple examples on the work which has been done in school. The home-work should be gone through on the board on the day following that on which it has been done; otherwise, if it is collected and corrected, the pupil has lost interest in it and has forgotten his difficulties before the work is returned to him—a glance into the waste-paper basket in any form room after such corrected work has been returned will conclusively prove that such efforts are wasted. On the other hand, the work should be collected after it has been gone through so that the important matter of *style* may be thoroughly examined. What has been said refers of course to the junior mathematical work. It is usually necessary to go very carefully through all the advanced work with pupils individually; but these advanced pupils are presumably in the hands of the specialist and this essay is intended for the non-specialist.

The writer, whilst hoping that the methods given may prove helpful, realizes that they may not appeal to all teachers and certainly has no wish to turn teachers into human gramophones, as the joy of teaching consists in making constant experiments. He wishes to acknowledge with grateful thanks his indebtedness to the Editor of the "Mathematical Gazette" for kindly permitting him to make extracts from the publications of the Mathematical Association.

ARITHMETIC

In a report on the teaching of Arithmetic a Committee of the Mathematical Association[1] divided the subject into two portions: (*a*) "straightforward computations, such as the addition of sums of money, multiplication of decimal fractions, the reduction of a compound to a simple quantity, etc., and (*b*) applications to more general topics, such as variation, mensuration, finance, etc., of such a nature that questions connected with them may to some extent be regarded as problems". The report afterwards states that, "although no hard and fast rule can be drawn between these two types, the distinction is a useful one".

In work under the heading (*a*) the important thing is numerical accuracy, and the methods used in teaching should be as uniform as possible. There is no reason why the numbers employed should not be large, as the training, though mechanical, is of considerable value, since it produces quickness combined with accuracy. It is, however, more useful generally to give several short examples rather than one long one. Checks should be made to test the accuracy of the results, e.g. in long addition money sums the addition should be made from the bottom upwards and checked by proceeding from the top downwards; multiplication can be checked by subsequent division, etc. It is unnecessary to say that neatness should be insisted on from the very beginning.

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[1] The "Mathematical Gazette," March, 1916, pp. 233 *et seq.*

In work under (*b*) variety of method on the part of the pupil should be encouraged and the questions set should be such as require careful thought in their solution, but not difficult or lengthy numerical computations. The value of such questions is considerably decreased if they are divided into classes, e.g. taps filling a cistern, etc. It is of the first importance that in the solutions of the type (*b*) the arguments should be clearly and accurately stated, and it requires the careful attention of the teacher to see that slipshod methods are not allowed to pass. In this connexion the use of = probably causes the greatest trouble. Every teacher has met with instances similar to these: 3 men = £2, instead of 3 men earn £2, and $\text{£}3\ 6s.\ 9d. = \frac{\text{£}3\ 6s.\ 9d.}{3} = \text{£}1\ 2s.\ 3d.$, when, as the result of the working, the amount earned by 3 men has been found and the answer required is the amount earned by each man.

Good English should be insisted on, and this has considerable value in the education of the pupil, since he is apt to divide the subjects of the school curriculum into water-tight compartments and to think that English is unimportant when he is doing Mathematics. In the solving of problem questions the numerical calculations should not in general be made until the whole of the argument has been set out, and this will often give useful practice in the use of brackets. One advantage of this is that the work can be more readily checked. The questions should be such as are likely to occur in everyday practice, though possibly outside the pupil's present experience.

Ordinary subtraction should be taught by the method of complementary addition, e.g. in subtracting 3 from 5 the method is to find what must be added to 3 to make 5.

In ordinary multiplication, begin with the left-hand figure of the multiplier and put the first figure of the multiplication under the figure which is being used to multiply by.

For example, to multiply 3746 by 342, arrange the work thus :—

$$\begin{array}{l}
3746\\
\underline{342}\\
11238\\
14984\\
\underline{7492}\\
1281132
\end{array}$$

In ordinary long division sums the quotient should be written above the dividend, e.g. to divide 1281132 by 342—

$$\begin{array}{r|l}
\multicolumn{1}{r}{} & 3746\\ \cline{2-2}
342 & 1281132\\
 & \underline{1026}\\
 & 2551\\
 & \underline{2394}\\
 & 1573\\
 & \underline{1368}\\
 & 2052\\
 & \underline{2052}\\
 & \cdots
\end{array}$$

In dealing with compound quantities the pupil should commit the following tables to memory :—

Money : Pounds, shillings, pence, farthings ; dollars, cents ; francs, centimes ; marks, pfennigs.

Time : Days, hours, minutes, seconds.

Length : Miles, furlongs, chains, yards, feet, inches ; metres, etc.

Area : Acres, roods, poles ; acres, square chains, square yards.

Volume : Cubic yards, cubic feet, cubic inches ; gallons, quarts, pints ; litres, etc.

Weight : Tons, hundredweights, quarters, stones, pounds, ounces ; grammes, etc.

In addition a good deal of general information should be given bearing on these quantities, including the number of links in a chain, the weight of a gallon of water, 10 lbs., the weight of a cubic foot of water, 62·3 lbs., etc., and the different measures should be compared.

It is possible at this stage by means of oral work to introduce questions involving the notation of Algebra, e.g. a hours, b minutes = $60\,a + b$ minutes.

With the knowledge so far acquired the pupil is able to do problems in simple proportion by the Unitary Method.

It is now usual to do decimal fractions before taking vulgar fractions. Decimals should be introduced by oral work and through the metric system, and, in order to make the teaching concrete, rulers graduated in tenths, squared paper, etc., should be employed and actual weighing performed, using weights of the metric system.

Before proceeding to multiplication and division of decimals, it is necessary that the following important principles should be thoroughly grasped by the pupils: viz. that if two numbers are to be multiplied together the result is unaffected if before the multiplication is performed one is multiplied by and the other divided by the same number; and that if one number is to be divided by another the result is the same if both are divided or multiplied by the same number before the division is performed.

In order that the work of contracted multiplication and division of decimals may be easily entered upon at a later stage the reduction to *standard form* is important. The work is set out as follows:—

$$34{\cdot}62 \times 17{\cdot}4 = 346{\cdot}2 \times 1{\cdot}74$$

$$\begin{array}{l} 346{\cdot}2 \\ 1{\cdot}74 \\ \hline 346{\cdot}2 \\ 242{\cdot}34 \\ 13{\cdot}848 \\ \hline 602{\cdot}388 \end{array}$$

To divide $602{\cdot}388$ by ${\cdot}0174$—

$$602{\cdot}388 \div {\cdot}0174 = 60238{\cdot}8 \div 1{\cdot}74$$

$$\begin{array}{r|l}
 & \underline{34620{\cdot}0} \\
1{\cdot}74 & 60238{\cdot}8 \\
 & \underline{522} \\
 & 803 \\
 & \underline{696} \\
 & 1078 \\
 & \underline{1044} \\
 & 348 \\
 & \underline{348} \\
 & \ldots
\end{array}$$

In both cases one digit is obtained to the left of the decimal place by multiplying or dividing the multiplier or divisor by a power of 10.

In every case a rough approximation should be made to check the position of the decimal point.

The rule for the conversion of a recurring decimal into a vulgar fraction is not very important and can certainly be deferred.

The rapid decimalization of money is very useful at a later stage and before giving the usual rule it can be introduced as follows:—

£2 14*s.* 4½*d.* = £2 14*s.* 4·5*d.* = £2 14·375*s.* = £2·71875, the operations being, of course, done mentally.

Though contracted method will be left until later, the pupil should know what is meant by "correct to so many decimal places" and "correct to so many significant figures".

H.C.F. and L.C.M. should be done by the method of prime factors, the numbers not being too large. The index notation should be introduced so that the pupil will understand its use in Algebra. The conditions for divisibility by 3, 9, and 11 are useful at this stage and should be taught in such a way that the pupil discovers them for himself. He finds this method interesting and he is far more likely to remember the conditions if they are introduced in this way. It is important to remember that H.C.F. applies to numbers and G.C.M. to quantities; e.g. 2 is the H.C.F. of 4 and 6 but 2 ft. is the G.C.M. of 4 ft. and 6 ft. The method of finding H.C.F. by alternate division should be left to a later stage when the pupil will be more likely to understand the principle on which it is based.

In vulgar fractions the important fact to be instilled into the pupil is that a fraction is unaltered when the numerator and denominator are multiplied or divided by the same number. The bald statement that to divide by a fraction it is only necessary to "turn upside down and multiply" is obviously unsatisfactory. A considerable amount of oral work should be done to familiarize pupils with thinking in fractions, first taking numbers only and then quantities. Whenever any ambiguity is likely to arise in the meaning of fractional expressions brackets should be used; e.g. $2\frac{1}{2} \div 3\frac{1}{4} \times 4\frac{1}{2}$ might mean either $(2\frac{1}{2} \div 3\frac{1}{4}) \times 4\frac{1}{2}$ or $2\frac{1}{2} \div (3\frac{1}{4} \times 4\frac{1}{2})$. Very little good is gained by setting boys complicated fractions. In evaluating such fraction sums as $2\frac{1}{2} + 3\frac{3}{4} - 4\frac{1}{8}$ the integers should be dealt with first and the fractions placed in brackets.

Problems on the Unitary Method need not be of an elaborate nature and care should be taken to see that the arguments are well expressed. It is fairly common to see such statements as "one man does the work = 3 days". The questions should be of a practical type and, in order that the pupil may not get wrong ideas, he should be made to understand that the principle of proportionality may not, in practice, exist in the case of large quantities being bought, or in questions such as a man digging a trench, etc. Square root should be taught both for whole numbers and decimals but cube root should not be done. The use of square root tables should be allowed when square roots occur in problems. Use should be made of squared paper and actual measurements should be made by the pupil when areas and volumes of rectangular figures and solids are being considered. The formula $2(l + b) \times h$ for the area of the walls of a rectangular room should be obtained by paper folding. The fact that the difference of the squares of two numbers is the product of their sum and difference is useful at this stage and can be easily illustrated by squared paper. Both the British and the metric system of measurements should be used.

In mensuration the pupil should be familiar with the principles :—

$$\text{average length} \times \text{breadth} = \text{area}$$
$$\text{average area of cross-section} \times \text{length} = \text{volume.}$$

He should also know the area of a triangle, trapezium, quadrilateral, and circle; and the areas of the surfaces and the volumes of prisms, cylinders, pyramids, cones, and spheres; the *developments* of the surfaces of these solids, excepting the sphere, should be known and drawn. Actual measurements of the solids should be made and the calculations made therefrom; this will give practice in the use of calipers, etc., and the use of the vernier. The relation between the length of the circumference of a circle and its diameter should be found by measuring the circumferences of circles of different radii and plotting on squared paper; the measurement can be taken either with cotton or by rolling a cylinder. The areas of circles should be dealt with similarly, the areas being found by counting squares. It is merely a matter of proportion to find the length of an arc of a circle and the area of a sector of a circle, and there seems no reason why this should be omitted. Opportunity should be found for discussing the measurement of angles in radians and also the relation between the sphere and its circumscribing cylinder. Pupils should be introduced to the finding of areas by the mid-ordinate method, and the results so found should be checked by counting squares.

Plenty of work in the Laboratory is useful at this stage, and the finding of densities will give useful practice both in mensuration and in decimals. Experiments such as finding the volume of a cone by plotting areas of cross-section and length are valuable in themselves and are an excellent preparation for the work of the Integral Calculus.

If experimental work is done as suggested the pupil is led up to the idea of variation. Percentage should be introduced by oral work, and, owing to its importance, much attention should be given to it. It is useful to get the pupil to see that if an article is sold at a gain of 5 per cent the selling price is 105 per cent of the cost price. By working out percentage errors in results obtained by experiment much useful practice is obtained.

Variation, direct and inverse, should be illustrated by experiment and the use of squared paper: the experiment to verify Boyle's Law is important in itself and is useful for illustrating inverse proportion.

The rules for contracted method can be expressed briefly as follows: In multiplication always retain two figures more than the number required and in division always retain one more figure in the divisor than the number still to be found in the quotient. It must be remembered that the quotient must be taken to one figure beyond the number actually required in the answer.

Logarithms should be taught carefully so that a pupil understands exactly what is meant by the logarithm of a number to a given base. They are probably best introduced by drawing the graph of $y = 10^x$ when x has the values 1, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, etc., the values of y being obtained by the sucessive taking of square roots. The logarithms of numbers from 1 to 10 can be found approximately from the graph and compared with the tables. The essential thing is that the pupil should be able to use logarithms intelligently, and the algebraic proofs of the rules are not necessary at this stage. The relations $\log ab = \log a + \log b$ and $\log \frac{a}{b} = \log a - \log b$ can, however, be verified by using the tables. As an exercise, the making of a simple slide rule is interesting. The Practice Method is important and should be well understood. In doing compound interest questions it is usually best to express the shillings and pence as a decimal of a pound, and express the percentage interest in partial fractions; e.g. $4\frac{1}{2}\,°/_\circ = 2\frac{1}{2}\,°/_\circ + 2\,°/_\circ = \frac{1}{40} + \frac{1}{50}$. Stocks and shares give difficulty mainly because pupils do not understand the difference between £100 stock and £100 cash. If they are taken at a late stage they can be made interesting and a large amount of general information can be given in teaching them. It should be pointed out, for example, that in considering which is the better of two investments the question of security is important. All financial arithmetic should be taught in such a way that the pupil gains a useful knowledge of the affairs of everyday life; e.g. discussions on rates and taxes, insurance, etc., are certainly more useful than involved examples on stocks, present worth, etc. A full discussion on the rate for education and how it is used might be valuable in showing that all the money does not go in teachers' salaries.

Perhaps no branch of Arithmetic is so difficult to teach as the degree of approximation of the result when the data are only approximately correct, and this work should be left to the mathematical specialist.

ALGEBRA

In the report of a Committee of the Mathematical Association on the teaching of Algebra[1] the following reasons for the teaching of elementary Algebra are given. I think no apology is needed for quoting them at length, since they show the teacher what the aim should be in teaching the subject.

"(1) Algebra has, in common with other branches of mathematics, the educational advantage of providing for the pupil a series of tasks so graduated as to be adapted to his ability and not beyond his powers; neither too easy nor too difficult. Success or failure may be made plain to him as a matter beyond dispute, and independent of the authority or taste of his teacher; this is peculiarly true of algebra, on account of the special opportunity it affords of applying checks to the results obtained.

"(2) Algebra is pre-eminently suited to provide training in clear thinking by the practice it affords in arrangement of ideas, especially in connexion with the solution of problems by equations.

"(3) Algebra, well taught, helps to acquaint the pupil with the process of generalization, and to beget a clear consciousness of conditions under which the process may or may not be valid. The introduction of the idea of positive and negative number is itself a most important extension and helps to widen the range of possible generalization in many other fields of inquiry. Accurate generalization is among the essential characteristics of educated thought.

"(4) Algebra leads to a more mature and fruitful way of looking at quantity than that given by arithmetic. It introduces the idea of quantity changing continuously, and of the functional dependence of one changing quantity upon another, these ideas being brought out by the study of variation, and illustrated by graphical representation.

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[1] Published in 1911.

"(5) Assuming that some study of physics is to be part of a general education, an elementary knowledge of algebra is necessary. This mainly involves the understanding, construction, and application of formulæ; variation; and simple equations in one unknown.

"(6) Although no claim is made for the inclusion of algebra in the general course on the ground of its possible subsequent professional utility to individual boys, still it should be recognized that algebra and trigonometry have a value to society if not to every individual, a value of which it behoves an educated man to have at least an inkling."

As regards the actual teaching of the subject many different methods are employed to introduce the pupil to the use of algebraic symbols. A method which I have found useful is to take a sheet of pins having the same number of pins in each row. The number in each row is an unknown quantity and it is represented by a symbol x, say. In two rows there will be twice as many, and this is written $2x$, and so on. Proceeding thus the total number of pins on the sheet can be expressed in terms of x. In this way addition and the multiplication of x by a numerical quantity are obtained by analogy with the corresponding processes in Arithmetic. If now the total number of pins on the sheet is known, the simple equation can be written down and the value of x found from it and checked by counting the number of pins in each row. Suppose that now two sheets of pins are taken in which the number of pins in each row of the same sheet is the same, but the numbers in the two sheets are different; with these the addition and subtraction rules can be taught. The need for the signs + and − naturally arises in expressing the sum or difference of the two unknown quantities x and y, and by afterwards ascertaining the values of x and y the results can be checked arithmetically.

In dealing with negative quantities an analogy can be made with differences in level. It is within the experience of every boy that heights are measured vertically upwards, and he knows that the zero is sea-level. How then should the height above sea-level of a submerged submarine be represented? Hence he is introduced to $-a$. The graduations of a Centigrade thermometer are also useful, but as the zero here involves the consideration of the melting-point of ice it is not, perhaps, quite so easy as the consideration of levels. Suppose the pupils are taken on an imaginary flight in an aeroplane, passing over hills and valleys whose heights above sea-level may be given as a, b, c, etc., feet respectively, they can express in terms of the height h ft. of the aeroplane their heights (i.e. differences in level) above the objects over which they are passing. Now suppose the aeroplane passes over the sea and then a submarine is "spotted". The height of the submarine above sea-level is $-x$ and the height of the aeroplane above the submarine is expressed as $h-(-x)$. This can be shown by drawing a straight line to be $h+x$. In a similar way, by considering the difference in level between two fish in the sea, $-a-(-b)$ can be shown to be $b-a$. Thence the subtraction of negative numbers can be proceeded with.

Simple multiplication and division should be taught by comparison with the arithmetical process, and if when finding L.C.M. in Arithmetic the method of prime factors and index notation has been used the pupil has no difficulty with $x \times x = x^2$.

When teaching long multiplication and division the relation to the arithmetical process should also be shown; thus the multiplication of $2x^2+3x+4$ by $2x+1$ corresponds to the multiplication of 234 by 21 by giving x the value 10. Many of the simple arithmetic rules can be extended by substituting algebraic symbols for numbers, and such generalizations should be made whenever possible.

A great deal of interest is shown by the pupils if the set of figures—

$$\begin{array}{ccccccccc} & & & & 1 & & & & \\ & & & 1 & & 1 & & & \\ & & 1 & & 2 & & 1 & & \\ & 1 & & 3 & & 3 & & 1 & \\ 1 & & 4 & & 6 & & 4 & & 1 \end{array}$$

is put on the board and they are asked to say all they can about it. They are usually able to proceed to write down further rows.

This can be followed by—

$$\begin{array}{rl} 1 & = 1 \\ 1 \cdot 10 + 1 & = 10 + 1 \\ 1 \cdot 10^2 + 2 \cdot 10 + 1 & = 11^2 = (10 + 1)^2 \\ 1 \cdot 10^3 + 3 \cdot 10^2 + 3 \cdot 10 + 1 & = 11^3 = (10 + 1)^3 \\ 1 \cdot 10^4 + 4 \cdot 10^3 + 6 \cdot 10^2 + 4 \cdot 10 + 1 & = 11^4 = (10 + 1)^4 \end{array}$$

etc.

Thus the pupil is led up to—

$$\begin{array}{rl} 1 & \\ x + 1 & \\ x^2 + 2x + 1 & = (x + 1)^2 \\ x^3 + 3x^2 + 3x + 1 & = (x + 1)^3 \\ x^4 + 4x^3 + 6x^2 + 4x + 1 & = (x + 1)^4 \end{array}$$

etc.

These can be verified by actual multiplication.

Oral work in *symbolical expression* is of considerable value: e.g. a man walks at x miles per hour, how far does he walk in y hours?; the velocity of a motor car is constant and it travels v feet per second, if it goes s feet in t seconds, give equations connecting s, v, and t. Such questions illustrated by giving numerical values to the symbols are very important in leading up to the solution of problems.

In teaching simple equations the important principle to be instilled is that if two quantities are equal the results obtained by adding the same quantity to both are the same. The expression "take across and change the sign" should not be used. Common faults of pupils are the putting of = at the beginning of each line and the writing under the equation of the factor used in multiplying: e.g.—

$$\frac{x - 6}{3} = \frac{4}{5}$$

$$\frac{5x - 30 = 12}{15}$$

The answers to equations should always be checked by taking each side of the equation in turn and substituting for x the value which has been obtained. A very common fault in this as in establishing identities is to substitute in the original equation and finish up with $\therefore 0 = 0$. It cannot be too strongly urged that in establishing identities either each side must be taken separately or the argument must be expressed in some such way as the following:—

To establish the identity $x^2 - 6x = (x - 3)^2 - 9$
We have to show that $x^2 - 6x = (x - 3)^2 - 9$.
This is true if $x^2 - 6x + 9 = (x - 3)^2$
i.e. if $(x - 3)^2 = (x - 3)^2$.

But this is true; therefore the identity is established.

Obviously this is not the only method of doing the example, but it is given merely as an illustration.

"Spotting" solutions should be allowed if the result is checked: e.g. in $x + \frac{1}{x} = 3 + \frac{1}{3}$, it should be permissible to say that, by inspection, 3 and $\frac{1}{3}$ are possible values of x.

In the report referred to above it is stated that "many of the usual exercises on *literal equations* might well be replaced by exercises in changing the 'subject' of a formula: e.g. If $V = \pi r^2 h$, express r in terms of V and h. Especially valuable does such an exercise become when it is applied to concrete examples, as, for instance, finding the diameter of a measuring cylinder by the formula cited above."

When leading up to factors practice in the mental multiplication of two binomial factors is very valuable, and when factors have been learnt the pupil should have little difficulty with fractions. It would be useful if pupils could be so thoroughly acquainted with fractions that they could say at once that, if $\frac{1}{f} = \frac{1}{u} + \frac{1}{v}$, then $f = \frac{uv}{u + v}$. This result is useful in Physics, as is also—

$$\frac{1}{(d-l)^2} - \frac{1}{(d+l)^2} = \frac{4ld}{(d^2-l^2)^2}.$$

Lengthy fractions and questions involving manipulation of algebraic expressions of the "heavy" type should be avoided.

Variation is very important and should be done in connexion with graphs. The examples should be practical and taken from well-known facts in Physics or obtained by experiment. Reference has been made to this under the heading "Arithmetic".

In quadratic equations pupils should be taught to look for factors in the first place before proceeding to the general solution. The meaning of the two roots should be explained, as it is very common to obtain as a solution of $x(x-6)=0$ one of the roots only, $x=6$.

The solution of the quadratic equation $s = ut + \frac{1}{2}ft^2$ which occurs in Dynamics can be dealt with, and it provides an interesting discussion as to the meanings of the two values of t. The graphical solution of a quadratic is useful and interesting, and the solution of such an equation as $x^2 + 3x - 5 = 0$ should be done both by plotting $y = x^2 + 3x - 5$ and finding where y is zero and also by finding where $y = x^2$ cuts $y = 5 - 3x$.

Except for examination purposes the time usually spent on progressions can be spent much better in other ways.

Easy questions on permutations and combinations set as problems are productive of careful reasoning and usually prove interesting to the pupils.

When the method of completing the square has been taught in connexion with quadratic equations, the finding of the minimum value of such expressions as $x^2 + 4x - 6$ and of the maximum value of such expressions as $4x - 6 - x^2$ can be introduced and the results checked by drawing graphs.

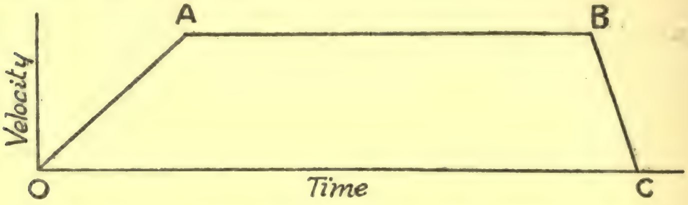
GRAPHS

Of all the subdivisions of Mathematics probably the most useful as a basis for more advanced work is that of graphs when they are properly presented. Most Algebra books contain a chapter on Graphs; but it is doubtful whether the interest and enthusiasm of the pupil are stimulated by the usual methods of introducing this very important branch of Mathematics. The aim in the teaching of graphs should be to lead up to the idea of functionality. The first step is, of course, the plotting of points so that the pupil may become familiar with the conventional method of plotting positive and negative co-ordinates. In introducing this one can consider two cross-roads intersecting at right angles, and, if possible, two such roads in the neighbourhood of the school should be taken. These are the axes of reference and they are represented on the squared paper by two straight lines. Now suppose we wish to make a map of the district, how should we find the position of a certain house? The pupils will themselves be able to suggest the necessary measurements to be taken, and the next question is how to plot the position on the paper. This at once leads to the necessity for a suitable scale, and a discussion follows as to the best position for the axes and the best scale to take in order to plot the whole district. Naturally the method of stating the scale is introduced at this stage, and it is important that pupils should not be allowed to express it as "1 square to *a* units". It is helpful in avoiding any confusion if the scale is expressed as "1 inch (or 1 cm.) represents *a* units". The axes are numbered along their lengths to facilitate rapid plotting. By considering houses in the four quadrants with reference to the two cross-roads the necessity for positive and negative co-ordinates is obvious. The pupil is now able to plot any points given by their co-ordinates, the method suggested above helping him to visualize what is required. The plotting of daily temperatures, heights of barometer, etc., will give practice and will also introduce the idea of different scales along the two axes. Up to this stage no graph has been drawn, and a discussion as to whether it is possible to obtain any further information by joining up the points will lead up to the conventional method of joining the points by straight lines when the value of the ordinate is not dependent on the abscissa: e.g. the temperature of a room is not dependent on the date. From such "graphs," or charts, no information can be obtained other than that which has been actually observed, and they are useful merely for showing changes which have taken place in the values of the quantity observed more readily than the actual numbers observed would do. Such "graphs" of temperature are obviously of considerable value in the case of illness, but even here they may lead to wrong conclusions. (During the influenza epidemic I amused myself whilst lying in bed as a victim by taking my temperature frequently during the day, and the variations were very extraordinary; yet these would not have been shown at all on a graph made from observations by the doctor in his daily visits.) The use of the graph as a practical instrument is perhaps best shown by means of experiments, and owing to its simplicity and its interest an experiment on the simple pendulum answers very well for this purpose. The advantage of this experiment is that there is obviously only one change in the conditions, viz. the length of the pendulum, and there is perhaps some advantage in the fact that the time-length graph is not a straight line. After the observations have been made, the best method of plotting them is considered, and scales have to be chosen carefully in order to plot all the corresponding values of length and time. The convention of taking the independent variable, in this case the length, horizontally, and the dependent variable vertically, should be pointed out. Here we have a different kind of graph from those obtained before. The change in the time of oscillation is consequent upon the change in the length, and the points can be joined by a curved line. From the curve the time of oscillation of a simple pendulum of any length within the limits of the experiment can be found and checked by actual experiment, and, of course, the length of a pendulum to beat seconds is interesting to the pupils. A new instrument has now been placed at the disposal of the pupil and one which he recognises has real value. Incidentally, a pupil who has seen the rapid oscillation of the very short pendulum is not likely to find difficulty with the effect of heat on the time keeping of a pendulum clock.

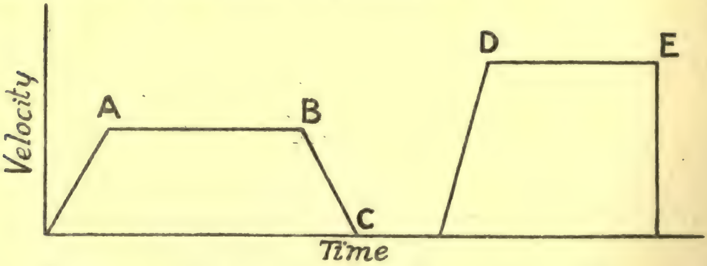
The interest of the pupils having been stimulated by this experiment and others such as described in connexion with mensuration, the drawing of graphs from their equations can be proceeded with and the idea of *gradient* introduced by means of a straight-line graph. The meaning of the gradient of a hill or of a railway track presents no difficulty; but it is necessary to impress upon the pupil the fact that the gradient of a straight line graph is the actual increase in the quantity plotted vertically divided by the actual increase in the quantity plotted horizontally between the same two points on the straight line, otherwise he is very apt to take the ratio of the increase in the ordinate to that in the abscissa without considering the fact that the scales may be different. By drawing the same straight-line graph with different scales the pupil will realize the force of this. It is useful to set as examples families of straight lines such as $y = 2x + c$, when c is varied, and $y - 2 = m(x - 1)$ where m is varied, and then ask pupils to give the equations of straight lines having the same gradient and passing through the same point respectively.

Problems such as one motor car overtaking another which can be solved by the graphical method are interesting and useful; but very little time should be spent on the graphical solution of linear simultaneous equations, which are better solved by algebraical methods. The pupil should be familiar with the graphs of $y = x^2$ and $y = x^3$, and he can be led up to the shape of the curves $x^2 + y^2 = r^2$ and $(x - a)^2 + (y - b)^2 = r^2$ by considerations based on the theorem of Pythagoras. The graphical solution of a cubic equation can be performed at a later stage.

For leading up to the Calculus and Dynamics a velocity-time curve is perhaps one of the most useful methods, and here we forsake experiment and draw on the pupil's own experience. Fortunately in these days of speedometers the pupil is able to see that the necessary data can be obtained in order to draw a velocity-time curve for a motor car. First the graph is drawn for a motor car travelling at a uniform speed; and he readily sees that the area between the graph, the time axis, and two ordinates represents the distance travelled in the corresponding interval of time. By considering velocities at various times the graph for a car accelerating uniformly can be shown to be a straight line, and it can be also demonstrated that the gradient of this straight line represents the rate of change in the velocity. If now a graph such as (1) is drawn upon the board, the pupils should be able to describe the car's movements during the time covered by the observations, comparison being made between the acceleration from O to A and the retardation between B and C; they should also know what the area represents.

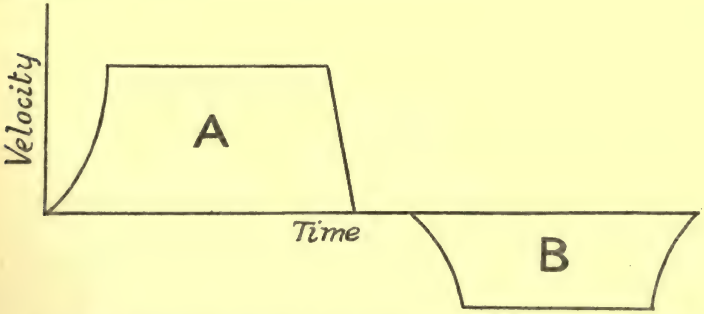


From this it is an easy step to the description of the car's movements as represented by the graph (2). Pupils find it interesting to give a short story describing the journey, making suggestions as to why the car was slowed up between B and C, whether the engine was stopped at C, and what happened at E.



The next step is to consider the gradient of the curve and to show that the gradient of the curve at any point represents the rate of change at the point. This can be done by showing what is represented by the gradient of a chord drawn through the point, and that as the extremities of the chord approach each other the gradient more nearly approximates to the rate of change at the point until, when the extremities are consecutive points on the curve and the chord becomes a tangent, the gradient represents the rate of change at the point, i.e. the acceleration there. Similarly a distance-time curve might be taken and the pupil asked to state what is represented by the gradient at any point. From the graph the condition for a maximum or minimum, viz. that the gradient is zero, can be shown and also the fact that the gradient changes from positive to negative in passing through a maximum value and from negative to positive in passing through a minimum. With such a foundation the pupil is able to enter upon the more formal work of the differential and integral calculus and to understand that $\frac{dy}{dx}$ is a "rate" and $\int ydx$ is a summation.

An interesting example for practice in finding maximum and minimum values by means of a graph is the question on the box of greatest capacity which can be made from a rectangular sheet of cardboard by cutting out squares from the corners and turning up the ends. This exercise is valuable as it gives both maximum and minimum values.



A velocity-time curve introducing negative velocities gives the pupil useful information regarding the areas enclosed by the curve and the time axis. Thus in the graph (3) the velocities in the portion B are negative, and this means that the car is returning towards the place from which it set out. The pupil is able without difficulty to see that the numerical addition of the areas A and B gives the total distance travelled, but that the algebraic addition considering the sign of B as negative gives the distance of the car from the starting point.

The usual equations in Dynamics for uniformly accelerated motion in a straight line and also uniformly accelerated angular motion can easily be obtained, as they depend only on the area of a trapezium.

In the more advanced work the finding of the relation between two variables by plotting the logarithms of the observed values is of very great practical value.

MECHANICS

Until comparatively recent times the teaching of Mechanics came very late in the school course, even if it was attempted at all, and this was necessarily the case since the methods were based on a knowledge of Trigonometry. But by treating the subject of Statics in its initial stages by experimental work and drawing it can be commenced with comparatively young boys. There is no doubt that practical work gives a knowledge of the principles such as cannot be obtained by a purely theoretical treatment, and, in addition, pupils find it so interesting that they frequently express a desire to know the theoretical reasoning on which the observed results are based. This has been my experience in dealing both with pupils in a Secondary School and with engineering apprentices in evening classes.

The apparatus employed should be as simple as possible and such as the pupil can fit up for himself, and many of the experiments can be performed with string, rods, weights, pulleys, and springs. It is necessary that the pupil should have clear ideas as to the forces acting in a mass suspended by a string from a support. This gives an opportunity to discuss weight and tension and to point out that the force acting on the support is the tension in the string and not, as the pupil always thinks, the weight of the mass. (A short discourse on gravitational attraction and the method by which Lord Kelvin weighed the earth always seems interesting to boys.) This can be followed up by considering the forces in a vertical rod supporting a mass placed on the top of it or suspended from it, and thus early the difference between a strut and a tie can be introduced. If helical springs are to be used for measuring forces, the springs should be graduated by the pupils themselves.

The usual experiments on the parallelogram and triangle of forces are next performed, and the pupil becomes acquainted with technical terms such as "resultant" and "equilibrant". It is important that the scale used for representing forces by straight lines should be clearly stated. The pupil is usually most impressed by practical work of the problem type: e.g. he might use his knowledge of the parallelogram and triangle of forces to find the weight of a mass suspended by two strings whose tensions are known by experiment, the result afterwards being checked by actual weighing. He is anxious to obtain a good result and takes great pains over his measurements and drawing. Experimental work on the polygon of forces when the forces meet in a point is not too difficult when this stage has been reached.

Experiments with a jib-crane, fitted up with a rod and strings, give an opportunity to verify the fact that three forces in equilibrium are proportional to the sides of a triangle, and with this knowledge and the fact that three forces in equilibrium meet in a point the pupil is fully equipped for solving three-force problems both graphically and by calculation. The aim in all these experiments is to arrange matters in such a way that the pupil discovers the results for himself: he is not so interested in mere verifications as in making discoveries.

Resolution of forces can be illustrated by suspending a known mass by a string from a support and drawing it aside by a known horizontal force; but this should be left until numerical Trigonometry has been commenced.

Experiments on moments and parallel forces are easy to perform with rods, weights, and string, and the graphical method of finding the position of the resultant of parallel forces by means of the link polygon should be given as well as that by calculation. The labelling of forces by Bow's Notation can well be introduced at this stage.

Experiments on the levers and also on centre of gravity follow. Experiments on *work*, using a chain and a spring balance, introduce the pupil to the work diagram. In connexion with machines the important thing is the velocity ratio and a block and tackle, a screw-jack, and other simple machines are useful pieces of apparatus. Failing these, pulleys can be fitted up. Experiments with machines give useful ideas on work, and an effort-load and an efficiency-load curve should be drawn for all machines available. In a discussion on the experimental results as compared with the theoretical calculations friction is introduced and experiments on friction can be performed.

Before this stage has been reached the pupil will have gained a knowledge of Trigonometry sufficient for him to be able to apply it to easy problems in Statics, and the examples should be so chosen as to involve as little manipulation of trigonometrical expressions as possible.

In Dynamics motion in a straight line without considering the forces which produce the motion can be done as examples in Graphs, Algebra, and Geometry; and the equations for uniformly accelerated motion involve elementary knowledge only and can be introduced without difficulty. The solution of such an equation as $s = ut - \frac{1}{2}gt^2$, when quadratics are known, presents an exercise of much greater interest than the solution of an artificial quadratic equation. Angular velocity and acceleration should be introduced quite early, as, if the equations for uniformly accelerated motion in a straight line have been found from a graph, the necessary modifications give no trouble. In order that no unnecessary difficulty should be put in the way of the pupil, it is best, I think, to work in practical units when considering force in Dynamics. In performing the experimental work in Statics the pupil has become accustomed to the pound weight as the unit of force, and there seems no good reason why he should get the impression that *force* in Statics means something different from *force* in Dynamics. At the beginning of the work in Statics the pupil is taught that the pound weight is the force of attraction of the earth on a pound mass, and he should know that the acceleration "g" of a falling body is due to this force of attraction, and hence he can be led up to the equation $\dfrac{\text{Force acting on a body}}{\text{Weight of the body}} = \dfrac{f}{g}$.

The possible objection to this is that in Physics absolute units are used; but this does not present such a difficulty as the use of different units in the two branches of Mechanics. The boy who later specializes in Mathematics has no difficulty in working with either system of units; but if the subject is to be taught at an earlier stage than was formerly the case it is very necessary that no complications should be introduced.

Experimental work in Dynamics in the early stages is perhaps not so necessary as in Statics, but important principles should be illustrated experimentally whenever possible; for example, the principle of the conservation of linear momentum should be verified experimentally. If, however, experimental work is done in the early stages a bead sliding down a taut wire is useful when dealing with uniformly accelerated motion. It is important to point out that the use of the principle of the conservation of energy has to be used with care in solving questions in Dynamics. When kinetic energy has been explained for the case of linear motion it is useful to consider the kinetic energy of a revolving body, as this shows the pupil the necessity for such a quantity as moment of inertia. Opinions differ as to whether Statics or Dynamics should be taken first. I, personally, have always aimed at reaching *work* in Statics at the same time as kinetic energy in Dynamics. Pupils often do not realize that the formulæ they have learnt for linear motion can be extended to the angular motion of rigid bodies by substituting angular velocity for linear velocity, angular acceleration for linear acceleration, torque (or moment of couple) for force, moment of inertia for mass, and angle for distance.

Geometry

Geometry can be commenced at an early age, the work being confined in the first instance to practical work involving the use of instruments. The instruments necessary are a graduated ruler, set square, protractor, and a pair of compasses. During this stage the pupil becomes acquainted with geometrical terms and learns how to perform easy constructions. He should be made to work neatly and as accurately as his instruments will allow; he will learn how to name a straight line and angle—by the way, the angle ABC is probably best written as $\widehat{ABC}$—and he should be made to describe in his own words the operation he is performing. Drawing to scale will form part of such work, and care should be taken to see that the scale is accurately expressed. During this preliminary work the pupil should be led to discover many of the geometrical truths for himself, and this produces considerable interest. It is useful to have a magnetic north and a true north line drawn on the floor of the room, and the meaning of compass bearings might be taught: the conversion of magnetic bearings to true bearings provides interesting mental work. Examples such as a man walking a certain distance in one direction, then in another direction, etc., will give excellent practice in measuring lengths and angles and drawing to scale, besides introducing the pupil to the addition of vector quantities. It is important to point out that the graduated ruler must be placed edgeways when lengths are being measured, in order to avoid parallax errors; if two pupils are placed on opposite sides of a clock when the minute hand is at the half-hour and asked to tell the time, the necessity for this will be very apparent.

There is no reason why the introduction of Pythagoras's Theorem should be delayed long after the pupil has learnt to draw a right angle, as it can be so easily verified by means of squared paper.

It is by no means necessary to confine the work of this preliminary stage to Plane Geometry, and a discussion as to what measurements should be taken in order to put an object back into the exact position which it occupies in a room, considered in all its bearings, will prove interesting and undoubtedly valuable. Paper folding and cardboard modelling are very useful: the making of a set square by folding a piece of paper calls for ingenuity and is especially helpful if the reasons for the angle being right are given by the pupils themselves. After this stage the formal Geometry of theorem and constructions can be commenced, and the pupil learns how to state his reasoning in correct form. He learns to argue logically and not to assume in his proof the result which he is required to prove. But it is important that practical work should be continued throughout the Geometry course.

Definitions should be learnt when they are required and not *en bloc.*

The power to solve riders is of more value than the writing out of theorems, and a considerable portion of the time given to Geometry should be spent over this work. I think, however, that boys should not be allowed to spend much more than ten minutes over any particular rider.

The learning of theorems can probably be best tested by oral work and using the blackboard, with occasional tests by written work. Many of the propositions in Euclid, Book III., are merely easy riders on the triangle theorems and Pythagoras, and should be treated as such even though the formal proof of Pythagoras may not have been done. The reasoning in converse theorems is, I think, very vaguely understood by most pupils, especially in those theorems where one quantity is proved to be not unequal to another; and a short preliminary discourse on the logic is not waste of time.

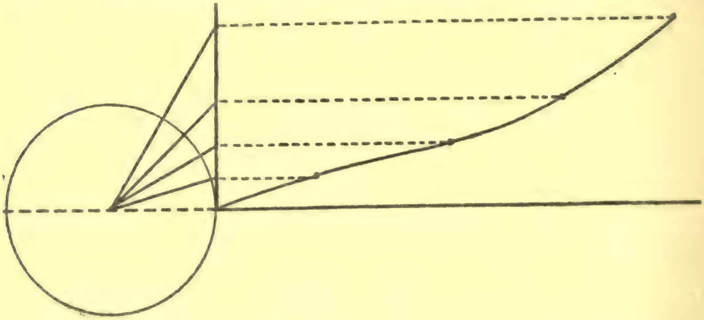
In riders on loci the finding by actual drawing of some positions of the point and especially of the limiting positions is very helpful in giving solutions to what are, probably, the most difficult examples in Geometry.

Easy problems involving consideration of solids such as the tetrahedron and the sphere should be introduced whenever possible.

NUMERICAL TRIGONOMETRY

On account of its interest to the pupil and its utility, both from the practical point of view and also for employment in other branches of Mathematics, Trigonometry should form part of the course in all Secondary Schools; but it should take the form of numerical Trigonometry. There is no doubt that all pupils like this work, and even young boys pick it up quickly: Boy Scouts preparing for the surveyors' badge do excellent work in this subject.

In commencing it is, of course, necessary to introduce the pupil to the tangent, sine, and cosine, and, on account of the ease with which it can be used in practical work, the tangent is taken first. Pupils take an angle A and by drawing and measurement show that $\frac{a}{b}$ is constant for all positions of the point C of the right angle ACB, C being taken on either arm of the angle A. Different pupils are given different angles, and hence the values of the ratio are obtained for varying acute angles, these values afterwards being plotted and a graph drawn. It is after this has been done that the word "tangent" is introduced. The next step is to draw a graph representing the tangents of all acute angles by drawing a circle and the tangent at the extremity of the horizontal diameter (Fig. 4). The values obtained from the graph can be compared with those given in the table of tangents.



Practical work can now be done, such as finding the heights of walls. The apparatus should be of a simple character and need consist only of a sighting rod having attached to it a protractor and a plumb-line suspended from the centre of the protractor. It is an advantage if the rod can be pivoted so that it can turn in a vertical plane; such a piece of apparatus can be fitted up without difficulty. Later, the length of a window and the height of a building where the horizontal distance cannot be measured directly can, of course, be found by taking two readings. When the pupils thoroughly understand the meaning and the use of the tangent, the sine and cosine can be dealt with in the same way and the graphs of sin x and cos x drawn for acute angles by means of the circle of unit radius. It is not easy to do simple practical work using the sine and cosine, but examples for practice in their use can easily be made up by using the length of a ladder as the hypotenuse of the triangle. It is very important that the pupil should become accustomed to using the trigonometrical ratios in the form $a = b \tan A$, $a = c \sin A$, etc., and much oral work should be done to produce speed.

Relations between the trigonometrical ratios, such as $\sin^2 A + \cos^2 A = 1$, $\frac{\sin A}{\cos A} = \tan A$, $\sin(90 - A) = \cos A$, etc., which can be obtained immediately from the right-angled triangle, can be taken next, and by dividing a triangle into right-angled triangles the relations

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} \quad \text{and} \quad a = b \cos C + c \cos B$$

can be established. These should be discovered by the pupil for himself with very slight guidance from the teacher.

The pupil should not be asked to establish identities other than those of a simple character which he can obtain at once by considering right-angled triangles; it is far more important that he should be able to use intelligently the new tools which have been placed at his disposal. Easy examples to be solved by using logarithms should be done as a preliminary to the solution of triangles, and this latter work should be performed by dividing the triangle into right-angled triangles. Elementary surveying can now be commenced by taking a base line AB on the playing field and measuring the angles PAB and PBA by means of a protractor, prismatic compass, sextant, or theodolite, P being any prominent point on the field. The calculation of the lengths PA and PB is checked by actual measurement, and the pupil is always anxious to obtain a good result. It is possible that some of the angles may be obtuse, and hence the necessity arises to consider the trigonometrical ratios of obtuse angles. These present very little difficulty if they are obtained graphically from the circle as for acute angles.

The method of triangulation can be explained, and practical work with a plane table is interesting and useful. Difficulties such as two radiating lines not meeting on the paper call for ingenuity on the part of the pupil.

The boy who has worked through such exercises as those suggested has a good elementary working knowledge of the subject. He finds it interesting, and he adopts towards the work of the more formal Trigonometry an attitude quite different from that of the pupil whose introduction is on purely theoretical lines. Practical work in connexion with *Heights and Distances* will give better examples than those in most text-books, and I think that probably the best work which was ever done for me was by pupils who, at their own request, drew an elevation of the school, taking all their readings with a chain and a theodolite.

THE TEACHING OF SCIENCE[1]

By F. W. Sanderson, M.A.

§ 1

IN writing this essay on the teaching of Science, I am not concerned immediately with Science as one amongst a number of subsidiary subjects in a school curriculum; for the aim of the essay is to try to evolve a method of education which the needs of the coming era will require, and it is written under the conviction that a new value and purpose must be claimed for Science, and that the education for the new era must be broadly based on Science. There are many signs that in the changes which are taking place in our educational system Science is beginning to take a more prominent position, and to have wider responsibilities in schools. The essay will attempt to consider the organization and outlook of Science teaching from the view-point of the new duty and service of Science. It is natural to expect that Science will take a larger part in education. Experimental Science has been the outstanding fact of the last century and a half, and during this period it has created a new industrial structure of society and produced startling changes in the social needs and relationships of life, and it is with the altered conditions that education will have to deal. Science has been able to make this great transformation by accentuating and disseminating a habit of thought and a method which are peculiarly its own. Briefly the aim of Science has been discovery, invention, and change, and its method has been that of testing, experimenting, and research.

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[1] Some use has been made of the writer's unpublished address on "Education in the New Era" given at Leeds in February, 1920. The writer wishes to express his gratitude to his colleagues Mr. W. H. Ault, Mr. P. Bolton, and Mr. E. W. Shann, who have given him much valuable help.

When, therefore, it is said that an education is based on Science, two things are implied.

In the first place, the aims and methods accentuated by Science will be the aims and methods accentuated in the schools; the new schools will bring the methods of Science, of research and experiment, into all the studies of the school; the school work or "lessons" will not be confined to the learning of accepted and routine knowledge, but will have constantly in view the purpose of investigation and discovery. And, secondly, education based on Science is an education in which the predominant factor consists in the practice of experimenting, researching, and working in the workshops and laboratories of Science.

Experimental Science, with its wealth of romance, with its incessant applications in the ordinary affairs of life, with its potentialities and with all its mysteriousness, has a peculiar attraction for the young, and has an innate power to impress upon the great mass of boys the true spirit of research and discovery; and the practical character of the work, the handicraft, the experience of experimenting in workshop and laboratory create the atmosphere and intuition of the scientific spirit.

§ 2

The needs of the new era will make ever increasing demands on Science, and will call upon the service and sacrifice of the whole nation. In the work of reconstruction every one will have to take his part. Nor can schools be left out of account. As in the war, so now, it is impressed upon us that schools should not be left secluded, as it were, in seminaries outside the active life of the community. The war has emphasized a principle of education, a guide to method, that the schools should take an integral part in the community work. Without this co-operation a great natural source of energy, talent, and freshness of ideas which exists in the schools is only very partially drawn upon.

The linking up of the schools more closely with the community will give wider scope for the activities of boys and masters, and in a striking manner will enlarge their opportunities. In many directions the profession is craving for this fuller life, and for the work before the new education it is just these enlarged duties which are urgently needed by schoolmasters.

Working for the community has always a powerful and stimulating influence in schools, and experience, both great and small, would justify a venture on a large scale. One of the most useful lessons in schools during the war was the extraordinary stimulus amongst boys of the preparation for war service. The war seemed to set free natural instincts. There was the inspiration to make sacrifices and to work for the country. In the trenches the soldier found himself freer than he had ever been before. He was set free in two important things. He was free to use his own special talents and to make the best use of them; and he was free to work directly for his country; and it is this freedom and purpose which we would have pervade the life of the school.

Science is connected up with the life of the people in a practical way, and opens out the schools to community service through the various crafts. In the organization of Science, working for the community can be made to take a prominent place. Much can be done in schools. Schools can do productive work in the crafts; they can take part in investigating the needs of the people; they can bring something to the development of thought and change of ideals.

One result of great value to the life of the nation is being found to follow from this closer communion between the home life and the school life. The home life and the school life, as might be expected, react one upon the other—a fact which is true for all grades of schools. Community work brings the work and thoughts of the school into touch with the daily life and needs of the parents; a common interest is aroused, and there follows a reciprocity of help; and in this way the schools may become great centres of influence in the neighbourhood and throughout the nation.

§ 3

The first effect of these aims and methods on the organization of schools will be to extend the curriculum. The many changes brought by Science, and the various ramifications of Science into newly discovered branches of knowledge, have opened out a wide diversity of avenues of investigation and work. A glance at the biological chart or map on page 165 will show how wide the spread of research has become in one branch of Science only. And all the stream-lines of discovery there shown lead to the welfare and betterment of man. Workers are needed in great numbers, for everything depends upon the power of numbers, not only for the research itself, but for the purpose of impressing and leavening the mass of people with the tendencies and results of the new-found world. The education for the coming era cannot now be restricted to the normal teaching subjects; there will follow in the schools an extension of the curriculum in consonance with the awakening to the needs of the race. The growing recognition of these needs presses for the use of every kind of talent, and it will become the business of schools to search out for special talents, and to train their pupils to exercise their talents for the common good. Recruits are wanted in constantly increasing numbers. Schools can do the necessary service of preparing the soil and sowing the seed. They can create the atmosphere. They can accumulate within their walls opportunities for all kinds of aptitudes and receptivities. The service of the school, as of the State, is overflowing with work for all their citizens, whether they are classed weak or strong. In the schools, and afterwards in the State, the school preparing the way for the State, the object should be to discover individual talent, and to create the organization through which such talent may be developed and put to good purpose. The new education will tend to become broader, more elastic, and ever urgent to move onward. Herein lies the fundamental difference between the old and the new. The function of Science teaching in schools is to take its share in building up an education on the principles which have sprung so intuitively out of the spirit of Science. It has been said "that modern Science has become a great fundamental factor in human life and progress, and that its continuous growth is a proof of its vitality, and its innumerable applications to our daily wants a proof of its ability". There can be little doubt that in one direction or another the future betterment of the world will depend upon further applications of Science and upon the extension of its methods into problems and studies which it has not yet considered within its province. Hence Applied Science should have a fundamental place in education. By far the larger number of boys, on leaving school, will find themselves engaged in work which depends upon the applications of Science, and, as Science takes up its fuller responsibilities in the State, occupations will, one after another, be made more creative in character. It cannot be too often insisted that a remedy for our anarchic condition of massed industrial labour, and for the aimlessness of many occupations, must be sought in educating the boy for his work, and in modifying the work, by organization or otherwise, so that the worker "lives" by his work, i.e. that he gains in intellectual, physical, and spiritual strength by it. A hard thing to which to attain, but it is with these aims that teaching should be obsessed.

§ 4

The organization of Science which will be described later is based on vocational, applied, and technical work. Applied Science involves experimenting with machinery, the handling of modern instruments, using many kinds of testing plants; it includes some manufacturing processes, and experimenting in biology and agriculture; it also includes expert knowledge of the crafts. The study of Applied Science will be found to give a good introduction to theoretical Science. It can be taken by boys of quite young age in the Preparatory Schools, and would be specially valuable for children in the Elementary Schools.

It has many claims for consideration. It is complex and apparently difficult; yet it has romance and mystery, which appeal to youth. Moreover, it is in direct contact with the ordinary life, the home life, of the day. It is always progressing, so that there is less inducement to be conventional and stagnant and to fall a prey to repetition, and the important claim is made for it that it will open out to the mind the principles underlying Science. It has substance about it and is full of information which is sought after, and it is always suggestive and stimulating to the curiosity. Working with the engines, machines, and tools in the workshops and laboratories, or working in the fields and gardens, boys will gain an intuitive knowledge of Science. Incidentally the theory or the grammar of Science will unfold itself, or at least the ground for it will be prepared; whilst the formal teaching of the theory of Science can come in at a later stage. The method of Applied Science may be compared with the modern method of studying languages—where the student is encouraged to read widely and gather up his grammar as he goes along. The analogy would be closer if the modern language books were constantly read for investigation and research in science, or history, or economics, in which boys grow familiar with thought and the work of other nations.

It may be useful to state three opinions :—

(1) The method which teaches theoretical science with merely an applied "bias" is probably not advisable until quite an advanced stage. In the earlier stages the treatment should be whole-heartedly "Applied".

(2) A craft should be worked at as a craft and not be co-ordinated or used for teaching any other subject.

(3) As far as possible no apparatus or plant should be "manufactured" for teaching purposes. This raises objections to some well-known systems; but the statement, I think, will bear investigation.

One of the obstacles to the general adoption of technical and vocational education is the so-called materialism of Science. It is true that the exploitation of labour lends some colour to this objection; but the true source of the resistance to such teaching is largely one of economic outlook, which has found expression in a charge of materialism as opposed to culture. But no schoolmaster with high responsibility can teach Science, whether he discusses the theory of Science or opens out the romance or applications of it, without a consciousness of its fuller value and significance growing upon him. He soon finds that directly or in symbolism he is teaching great principles of life, that to learn of Science is to acquire a new language of a new revelation; for scientific education not only opens out a new symbolism, exact and direct, but the definition, measurement, theories, and discoveries of Science find their interpretation and value in ethics, law, economics, and religion, the unfolding of which we believe to lie as a chief duty in front of the schools.

§ 5

The organization of a school for the crafts, and for scientific, technical, and social work for the community, will require much experimenting. In the meantime schoolmasters ask how all these things are to be got within the time table, and there is the fear that the crafts especially may absorb too much time. Some experience shows that the time required is not exacting—a few hours per week, or in some cases better a week or half week per term, or in simple crafts now and again as need arises—these carried through a boy's time at school will lead to the possession of a considerable amount of craftsmanship and to a knowledge of many crafts; whilst the work itself has within it the source of a sound education. Especially will this be true in Elementary Schools.

There is one objection in the minds of many that the methods lead towards too much specializing. But for one great purpose specializing is the right thing. This purpose is to inspire a boy quite early in his time at school with a deep keenness for some one branch of work. If we are to enlist every boy into the community service, every effort must be made to get each boy at "grip" with something he can do, whether in a special branch of science or of a craft, or with a language, or researching in history, or studying literature; for most schoolmasters can testify to the fact that, when a boy has been caught with the zeal for a particular study, or the zeal to make, to discover, or to know—to do work on his own initiative, and to do it for a consuming purpose—he has made a great setting out, and, as his intellect is stretched, his interests broaden out.

If by some sort of spectrum analysis the emanations of the brain could be analysed, it is not improbable that the intellectual creative boy would be found to exhibit special capacities. Such boys for the time being are highly selective in their proclivities. The average normal boy would probably show characteristics of a continuous nature, yet exhibit some lines more intensely than others. It is an educational question of importance whether ultimately the boy will be made more effective for the State by what is called a general education or by accentuating the special qualities. Science and the needs of the nation, the spirit of co-operation, and some experience point to the latter. The one is associated with normal, the present, the inactive, and possessive; the latter with life, activity, change, and creativeness. So it appears to many. For the purpose of the State and of the race it is, independent of these considerations, necessary to make the best use of each worker and to find out what he can do, and not to leave him on one side. Only thus, even at some sacrifice, can a community be made an effective medium of progress, elastic, resilient, and free from flaws. Such, it seems to me, is the work before education; and for this end the schools should be built and equipped under the motto of spaciousness.

§ 6

The laboratory method in education gives prominence to the "free" individual system of study. Set free, either singly or in groups, to carry out some special work, a set or form or combination of forms, may be found distributed over all parts of the school, in workshops, libraries, laboratories, museums, or fields. Such work will encroach upon the school-time as much as experience dictates. It will not supplant, but will rather give help and ground-knowledge for the great work done by the craftsman in the art of "classroom" teaching, of inspiring, or "driving". A somewhat bold acceptance of the laboratory system will set masters free from continuous teaching; some members of the staff will give part time, others the whole of their time, to the functions of librarians, demonstrators, curators, artists, research workers.

Some doubt of the stimulus of such work may be felt, but, although the work is a "nervous" one for masters, those who have had the opportunity of watching the workings of it ultimately become obsessed with its stimulating effects on all types of boys. The method is a hard and difficult one, and exacts much from the master and from the boys; but the whole is maintained by the object in view, and the object in view should be related as immediately and as definitely as possible to the needs of to-day. But the truth is that co-operation is more stimulating than competition, it springs from the highest primitive instinct of "creativeness". Creative work cannot be marked, or placed in order of merit. Much of it must be held as a sacred thing, the boys' own contribution to the common good. It is a great leveller of value. The work of the so-called "dull" boys becomes essential to the whole. Forms need not be built up on an order of merit, they should be formed of different types and capacities for special work—neither ability nor age will count so much in the new organization.

§ 7

Working for the community accentuates another aim in education and gives it a new purpose. The aim is based on economics, economics for the community. Economics has always, consciously or unconsciously, played a subtle and masterful part in the schools. It is at the root of the Public School system and its standards of value; and it is seen in our present-day Elementary Schools producing disastrous results. The change in educational organization is inevitably associated with the changes taking place in "economic" and social standards.

Economics brings us up to controversial questions; but such questions cannot be put on one side in schools, even when they become active and remain less powerfully passive. A scientific safeguard would seem to rest in the free and open research of the "laboratory" method. The "economic" or social aim is an essential duty of Science, for Science owes a special debt to social life. Science is accountable for our whole industrial system with all its unorganized mass production; but, whilst men of science have devoted themselves to industrial processes, they have not concerned themselves with the grave questions of labour.

They may be said to have created the machine, but they have not as yet fashioned the working of it. It is, however, in the working of the new machine that Science will find its great purpose in the coming years; its methods, thought, discoveries, and inventions will turn towards the building up of a new social structure in harmony with the industrial conditions. There is a vista of a wide field for adventure and discovery, and into the new field the schools may enter. From the point of view of this essay it is the most urgent object of education, and the principle of it would stand as a directing method in all parts of the school life and organization. One thing the schools may do, they can adjust their methods of teaching that they may have an experimental relationship to the new problems, so that the life in school may lead to a more workable life in the field and factory. I will give some examples of what this means and how it may be approached. Whatever results these efforts may have, it may be hoped that they will foster a spirit of sympathy in the minds of the mass with the change of thought which is struggling to express itself; and that it will tend to reduce the kind of time-lag which separates the discovery from the practical use of it, a time-lag which in itself constitutes an insidious disease. A function of education is to create a good soil into which, when the seed is cast, it will quickly take root, spring up, and bear fruit.

Here are briefly stated three examples of aims and methods.

(1) School workshops organized on a manufacturing scale will give opportunity for experimenting on factory systems of labour. Here unconsciously boys will get a familiar knowledge of the inequalities in such labour conditions. They will get some idea of the effects of repetition work and how to seek a remedy; the anarchic loss through undeveloped talents, the true significance of output and efficiency; the instincts of the worker.

(2) Methods in school can have reference to their application in the adult life. One example may be given. The conversazione method of scientific, literary, and

historical education is just the kind which can be followed in continuation and adult education. Boys will be experienced in it and will follow on with it. But these are suggestions only of what might become a valuable function of schools. We may have visions of schools associated with the community, open to all, infusing their influence through all the activities and thoughts of the people.

(3) The tone of the school, the new freedom and discipline, the transformed ideal of justice, the care of the weak, the development of talents, the principle of welfare—are all results of methods and ideals which have grown up in schools and may pass out from them into the State.

Schools should be the seed ground of a new world, a new nation in embryo, the germ of what is to be.

§ 8

In the following description of an organization of Science I will give details of the staff, the buildings, and the plant of a school in which the aim is to make Science the basis of education. Objections may be raised to the difficulty and cost of such a system; but in writing this essay I have been anxious that nothing should be suggested which has not been found practicable, and nothing recommended which could not be adopted in any great school.

Public schools, with their wealth of buildings, land, and corporate life, have at their command much of what is needed. There are many parts of a school which are not fully used, and some of them have traditionally been reserved for the senior boys only. Great halls, libraries, reading rooms, art galleries, gardens, farms are often empty of boys for long periods. Schools, too, often enough possess workshops, electric lighting plant, and machinery of different kinds which are not put to the cause of education. A return might be made to the big schoolroom of years gone by, and sets of classrooms could be converted into galleries, wherein the experimental and research methods of work might be followed.

There are indications of the coming of a federal system into education, when groups of elementary schools and secondary schools will be opened out to the university—to form a group, so that from the elementary school the pupil can see the way, free and clear, through the secondary school to the university.

We may have dreams of the universities being linked up with a great central university—a true educational league of nations.

To the federal group will be joined farm institutes, training colleges, and similar institutions. With this larger grouping organization on a broader scale is not only possible but necessary. But even as things are now some steps can be made towards the richer equipment and wider purpose.

The federal system would solve the difficulties opening out in secondary, continuation, and adult education, and would go some way towards enlisting teachers and training them.

A school with a liberal and wide equipment can serve many purposes. It will provide abundance of opportunities for different talents ; it will provide space and plant for both independent and co-operative work on a full and practical scale ; it will be in a strong position to take a lead in community service, either in production or as a central consulting and advisory institution. Poverty of equipment will mean an equal poverty of opportunities, and for the great average it leads to a poverty of life ; it is cramping, uninspiring, and destroys the sense of freedom. The more spacious schools will appeal to the neighbourhood, and will be active agents in the spreading of knowledge. The limitation of schools to the "educational" subjects seriously restricts the growth of knowledge and limits the field of inspiration ; and it has further the effect of restricting the area from which "teachers" can be drawn. A school with the wider vision and purpose will attract men and women into the larger service. Boys, too, will not be anxious to leave school, and the same boys will be willing to return as teachers. In a system of federal schools where the masters join in the work of all its component faculties their work will become constructive, creative, progressive, and attractive.

§ 9

I am venturing to give a suggestion for the staff of a public boarding school or for a central secondary school. The masters in it will also take part in the work of the elementary or preparatory schools, and they will join in the work of the local university. Reciprocally, the masters in the lower schools will take part in the work of the higher school. My experience is that this community of work adds to the zeal and power of all the workers.

Here is the suggestion for the staff of a school :—

2 Classics, history, literature.
2 Classics, English, history.
2 Classics, history, geography.
2 Latin, English, history, geography.
1 Classics, archæology.
2 History, economics.
1 French, Spanish.
1 French, German, Italian.
1 German.
1 German, history, English.
1 French, history.
2 Russian, French, or Eastern European language.
2 Eastern languages.
1 Mathematics.
1 Mathematics, geography.
1 Mechanics, mathematics.
1 Physics, mechanics.
4 Chemistry.
2 Physics and chemistry.
2 Chemistry and biology.
2 Applied mechanics and physics and drawing.
1 Zoology and anthropology.
1 Botany.
1 Agriculture.
1 Geology and ethnology.
1 Art master.
1 Art and applied art.
5 Music masters.

To this staff should be added :—

1. A workshop staff.
2. Two or more librarians or secretaries or demonstrators.
3. Three or more demonstrators in science and applied science.
4. Curator of biological gardens.
5. Staff of workers in the gardens and on the farm.

It would be valuable and feasible for a school to maintain one or two young research workers, coming direct from the University and working under the advice of the University.

§ 10

I propose to give in very brief outline, more by way of suggestion than description, some account of buildings and equipment, and method. It will not be possible to give many syllabuses of work. Where Science is taught on a fairly comprehensive scale the syllabuses must necessarily be numerous, and if the teaching is to be kept alive the syllabuses must be constantly changing. The organization for Science, as for any other study, must be an image of the study itself. The organization must in itself inspire the true spirit. Now Science is always progressing, changing, doubting, and putting things to the test of examination. It takes nothing on authority, but tests every dogma. Its laws are never fixed, they are only approximations, and are quivering to change. Science is always marching onward, discovery leading to discovery, invention to invention. The teaching methods of Science must reflect this spirit of Science. Boys should therefore always be working with modern discoveries, keeping watch over the trend of research and of further inventions. The so-called "elementary" experiments must be kept in a subordinate place. Over all the organization there should rest the spirit of change and progress. Hence fixed syllabuses are to be avoided. A few syllabuses drawn up at the beginning of a term, for which I am indebted to my colleagues who have charge of the respective laboratories, I will give as types or symbols. The many aspects of Science, its history and romance, the theory and philosophy of it, its applications and inventions, its extension to other fields, will all find their place in the teaching.

But the important thing is that masters should have at their command the "material"—the buildings, the laboratories, fields, gardens, workshops, with liberal equipment. I do not doubt that a few boys may be educated without this plant, a few boys may become scholars without it; but I have grave doubts that the spirit of Science can be impressed upon the body of the school, and through the influence of the school the outlook and life of the nation transformed, without it.

To indicate the general nature of work which may be done brief summaries will be given of the requirements. These will be set forth more helpfully by means of catalogues, and this must be the excuse for the numerous lists given below.

§ 11

The following table gives a list of equipment and buildings for the teaching of Science in a public school or central secondary school:—

1. Wood and metal workshops.
2. Engine house.
3. Engineering laboratories.
4. Two or more physical laboratories.
5. Two or more chemical laboratories.
6. A biological laboratory.
7. A natural history gallery.
8. A botanical garden.
9. An experimental farm.
10. A hall of needs.

And closely associated with the work in Science—but outside the scope of this essay—there should be a literary-workshop block of buildings.

§ 12

The Workshops.

School workshops should provide the following departments:—

(*a*) A power station (not less than 60′ × 30′) equipped with a range of motors, steam engine, turbine, gas, oil, petrol engines, and provided with the necessary measuring and testing plant.

(*b*) Engineering shops. It is most convenient to have two shops, one with heavier machines for working on a manufacturing scale on repetition work; the other fitted with special lathes and tools of an instrument-making type.

Here is an equipment of the first shop: 15 lathes from 9½″ centre to 5½″; planing, shaping, milling, and drilling machines; universal grinder; a slotting machine with various surface plates; setting out tables; micrometer gauges; telescope gauges; vernier, and standard gauges. The second shop should have a corresponding equipment for its special purpose.

(*c*) A foundry, with its cupola and tools.

(*d*) Forge and smithy. A good range of forges; a horse-shoeing shed.

(*e*) A woodwork shop. It is most convenient to have this shop large enough to take about forty boys. It should be well equipped with the usual workman's benches and tools, and should also have machine tools for the use of the workmen.

A good foreman will be required, and a staff as large as possible, say, four engineers, four carpenters, an electrician, a plumber, two painters, a farrier, and a few apprentices. The intention should be to provide a practical workshop, where the ordinary work of shops is being done. There will always be a plentiful supply of work, either from the school itself or from the neighbourhood.

The men in the shops should be skilled workmen drawn direct from the crafts, men of the best workman type, skilled, possessing the craftsman's love and pride in his work; patient, true, inventive, resourceful, exact.

Live shops, we claim, with the workman's air about them; not classrooms for teaching. Better, too, that they should be separate buildings, not part of a classroom block; manufacturing shops to which the workmen of the district will like to resort, where they will see the best workshop methods and the highest class of work.

I should like to have such shops placed at the service of the elementary school children. For here, away from exploitation of labour which destroys the creative spirit and talents, the children will learn of the delights of handling things, the delights of labour and of the craftsman's art, not drudgery but work, the love of labour for its own sake, the eagerness for knowledge. Here they may be servants of the State, but not slaves; here is labour, but not drudgery. Furthermore, the work will link closer together the parents and their children, for some at least of the work done in the shops will have relation to the work and thoughts of the parents.

Some further practical notes may be found useful:—

(*a*) Repetition work will be found useful, especially for lower and middle forms, i.e. for boys below the age of 16 or 16½. During the war munitions gave ample opportunity for repetition work of varied character, and in time of peace such work will come through the ordinary business of the shops. Here are some things needed, which furnished work when the war ended: Bolts, nuts, electrical terminals and binding screws, lathe centres, spare parts of machines, chucks, geared wheels, clamps, screw-jacks, boiler tube expanders. Quite a useful plan is to take forms by the week, working eight or nine hours a day—an intensive method, which is valuable in other subjects.

(*b*) Advanced boys in the higher forms can use the manufacturing shop for the construction of heavy tools and instruments, such as gauges, gyrostats, optical benches, and numerous others.

(*c*) The instrument-making shops will be used in connexion with the Science laboratories, and for voluntary work.

(*d*) Out of school hours the woodwork shops may be used for voluntary work.

(*e*) The smithy will have as its clients the other shops and laboratories of the school, and the farmers and others in the neighbourhood. In agricultural districts, and indeed in towns, the schools can undertake the horse-shoeing of the neighbourhood, and the repairing of machines and instruments, and the making of spare parts.

(*f*) A workshop for local crafts, especially where experimental work is needed, would be a valuable addition.

§ 13.

Physics and Mechanics, Pure and Applied.

1. Details of laboratories and fittings.

In a large school two physical laboratories will be needed. For the present-day methods, and to provide for the combination of schools, these laboratories should be on a large scale and opening one into the other. I have in mind two rooms 60′ × 30′, or larger, with an engineering laboratory or machinery hall 50′ square, a drawing office 60′ × 30′, and a standardizing laboratory say 40′ square, together with the power house.

Heavy machinery is confined to the power house, light machinery and testing plant to the engineering laboratory. Where there are two laboratories it is perhaps best to equip them for two types of experiments, one for applied, the other for more theoretical work, rather than to organize for senior and junior boys.

The drawing office should be a room corresponding in size to the laboratories, and leading through into the engineering room. It is recommended that boys should have practice in projection and isometric drawing from an early age. Some of the work can be done in the elementary or preparatory stage. The drawing office with its apparatus will be found most useful for "continuous" mathematical calculations which are required, and which can be set to groups of boys. Mechanical drawing, with machine design and construction, forms a regular part of the scientific course.

2. A catalogue of machines, prime motors, apparatus, instruments, tools, and material would occupy much space; but it may be useful to give a selection.

(*a*) The engines and motors erected in the power house: an arrangement having machines running down one side of the room, leaving commodious space in the other half, makes it possible to work twenty-five boys in the running and testing of motors.

(*b*) In the engineering laboratory: a number of testing machines, including a 5-ton Buckton for tension, compression, torsion—a most useful machine for boys of all ages; smaller testing machines; hydraulic plant with pumps, turbines, weirs, meters; Brinel's hardness-testing machine; experimental motor generators for direct and alternating current; gas calorimeter; various types of boilers; aero-engine with propellor; ship model tank; air tunnel; working models of engines.

(*c*) In the physical laboratory and standardizing room: electric and other standards; potentiometers of various grades; meggers; testing sets; graded ammeters; radio-micrometer; wireless telegraphy and telephony; standard clock; Hilger's spectroscopic instruments; models for experiments on balancing; Tesla apparatus; X-ray apparatus; polariscopes; levels; theodolite; glass-testing instruments. These chiefly in the standardizing room, the laboratory being stocked with apparatus and material for general use.

(*d*) Apparatus which may conveniently be described as apparatus for the history and romance of Science. Amongst others there will be apparatus to enable the boys to reproduce the experiments of the great masters of Science, illustrating their lives and works, and showing all the marvels of colour, of sound, of force, electricity, heat, light. A useful method is to set the boys free to prepare demonstrations and to hold a conversazione. Boys from the preparatory age upwards can be occupied in this, not in Physics only but in other branches of Science, and in Literature and Art. A term or half a term in the year could reasonably be devoted to it by all the junior forms. As a practical suggestion the exhibition can be left in working order for several weeks, and large numbers of boys take part in it. I have described elsewhere[1] such an exhibition, with some advice as to how to proceed, to which I may be allowed to refer.

(*e*) The second of the two physical laboratories is equipped more for theoretical science—it might be called a mathematical laboratory.

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[1] "Natural Science and the Classical System in Education," edit. Sir Ray Lankester.

3. In organizing the work the method can approximate to that of a good form of pupilage, in which practical and outdoor work is sandwiched, or alternates with the more theoretical work. The lower forms, corresponding to the preparatory or elementary or junior school, will do the "machinery" practical work in Mechanics and Physics. (They will also take Chemistry and Biology.)

At the next stage, corresponding to boys in the fourth form (ages 14-15), the work will remain of the same character, but here a beginning might be made with the elementary theory. Here, too, Chemistry and Biology.

In the fifth forms (ages 15-16) the theoretical aspect might be more accentuated.

The upper fifth (ages 16-17) return to the "machinery" work, but now it takes on the form of a more organized course in Applied Science. No direct theoretical teaching need be given, but it is useful to have a pamphlet in which is collected all the theory which lies within the Applied.

In the higher forms a division will take place between boys devoting themselves to the higher branches of Applied Science and those who devote themselves to the more theoretical and mathematical aspects, in which Mathematics and Philosophy are applied to Science.

Space would not permit of syllabuses if they were needed, but the applied *practical* work would include graphic statics.

1. Types of bridge-girders and roof trusses; indicator diagrams; energy of fly-wheels; shafting, gearing, tackle; harmonic motion; testing of material; tension, pressure, shearing, torsion; rope, prony; transmission dynamometers; fluid friction, turbine, pump, nozzle, weir; circular motion.

2. Heat of combustion of coal and gas; heat tables; latent heat at various temperatures; properties of steam and use of steam tables; energy of steam, dryness fraction; experiments with steam engine; diagrams and their meaning; brake power $B = a\,I + b$; action of valves; valve settings; simple cases of theoretical steam and gas engine diagrams, and of efficiency; expansion, compound and triple expansion; gas engine, petrol engine, turbine; radiation of heat from a boiler, con-

duction, expansion; photometer, lumeter, simple convex lens.

3. Comparison of magnetic moments, magnetic fields, fluxmeter, field of electromagnet, hysteresis, Ohm's law, ammeters, voltmeters, shunts, battery resistance, potentiometers, E.M.F., standardization of ammeters, voltmeters; Wheatstone's bridge; potentiometer methods; insulation resistance; Ohmer; main testing set; experiments on induction and principles of the dynamo and motor; reflection; lenses; photometer.

4. Mechanical drawing:—

(i) Elevation and plan of a given machine, details are to be produced from measurements taken by the boy.
(ii) Dimensioned perspective sketches are given from which elevations and plans are to be drawn.
(iii) Two or more views are given, and another view is to be projected, or to be completed if partly given.
(iv) Detailed views of component parts are given, from which a general assembly drawing is to be produced.
(v) Very simple horizontal or vertical sections are to be drawn.

The above is the nature of the practical work done in connexion with the study of Applied Science by boys at the top of the school, i.e. over the age of, say, 16½-17. A somewhat reduced and simplified syllabus is the work of the section below, i.e. 15½-17. It may be added that the higher syllabus is of the character accepted for Higher Certificates, and the second one for the School Certificate.

A list of experiments for quite small boys from ten years old upwards can easily be made from the equipment, and varied each year.

Here is one, stated briefly:—

Worm gear; differential pulley; worm-driven pulley tackle; energy of fly-wheel; horse-power of electric motor; candle-power of electric lamps, or gas burner; magnetic fields, force, measurement of electric resistance, pendulum; heat necessary to produce steam; convection currents; testing a pressure-gauge; levers, supporting forces of a beam; slide valves; movement of engine piston; to test whether india-rubber is truly elastic; effect of friction; effect of "lagging" on rate of cooling; strength of magnetic field; force to pull aside a heavy weight.

Junior forms can take selected parts of Applied Science; or they could spend a term in the romance of Science, in demonstration, preparation, and study; or in investigating properties of material; or in some exact measurements of a simple and more direct nature. Where there are several forms working at Mechanics and Physics it is of some advantage to spread the various types of work amongst the form. Much of it can be done with one single purpose in view. It will be found that some knowledge of the whole will pass through the forms concerned.

For all the lower forms the work is arranged term by term. Sheets are printed with instructions which vary according to the ages and needs of the boys. These can be bound into a pamphlet. In the middle forms where Applied Science is taken pamphlets are prepared which enumerate the theory which will be found in the work—forming a kind of grammar of Science.

In the fourth and lower forms boys do Mechanics, Physics, Chemistry, Biology, and Geology—either separately, alternately, or co-ordinated. In the higher forms there is a range of forms from the Fifth, through Remove, to the Sixth in which Mathematics, Physics, and Chemistry are the chief scientific studies; and there is another set of forms in which Biology and Chemistry are the main studies. Biology again will begin with Agriculture, gardens and animate life—dividing at a later stage into Pure Science and Agriculture.

§ 14

Chemistry.

In every public school and in each central school liberal provision will always be made for Chemistry. Two laboratories of not less than 60′ × 30′, and a 40′ square laboratory for metallurgy and other Applied Chemistry, will be needed, and it would be desirable to have a separate laboratory for Organic. Again it will be convenient for these laboratories to open out into each other through wide arches. With laboratories thus connected up it will be possible to engage the boys in divers experiments and investigations, it will make co-operative working more effective, and will in addition give all the enthusiasm which is stirred by numbers—for there is a stimulating power in numbers. The corporate influence may become electric. Each boy will have the "opportunity of soaking himself with the spirit and methods of experiment by joining in work with a numerous band of young and devoted workers".

I need not dwell on the regular fittings and work of the chemical laboratories, except so far as to consider in what way the applications of Chemistry and working for the community can form a part—and a stimulating part—in the study of Chemistry. In its early stages Chemistry is largely a craft, and the young beginners will be chiefly occupied in learning of the craftsman's art, and in gaining a good stock of knowledge of the common objects, and of their reactions. As Professor Armstrong has consistently insisted, one of the primary duties of schools is to spread broadcast the scientific knowledge of ordinary substances and to give a scientific understanding of the craftsman's art in ordinary occupations of the family life. Hence in the early years the time will chiefly be spent in the laboratories, and, as in Mechanics and Physics, the young boys might with advantage make use of modern manufacturing apparatus. An immense field of investigation is opening out before the schools, for which the massed labour of the schools is peculiarly fitted. In the opening up of new countries, and in co-operation with the races of other countries, there will be a great necessity to discover the properties of matter, the properties of the many kinds of raw material. The lack of such knowledge seriously retards invention, as we may witness in the slow emergence of the incandescent electric light. There seems no reason why schools should not embark on such national and international work. To a considerable extent the skill and energy which schools possess in their masters and boys is neglected. And such work will be "educational". "There is no better way," says Mr. Shenstone in his instructive Life of Liebig, "of making oneself acquainted with the raw material than converting it into its compounds, and in doing such work the student will acquire skill in the various branches of the chemist's craft".

The equipment of the laboratories, in addition to the usual apparatus for studying the principles of the science, will include apparatus and plant for technical analysis and the testing of material, and for conducting researches on chemical problems which may be submitted by industrial works or by the university.

The laboratories might have apparatus of a technical character for gas analysis, electrolytic analysis of alloys, organic analysis and synthesis, and metallurgy. Plant for the production of the by-products of coal-tar on a large scale, and plant for the recovery of benzene and other substances from coal-gas; plant for the manufacture of liquid air. Other apparatus may be given—and for the same purpose which has induced the setting out of the larger equipment generally—accurate polarimeter; muffle and injector furnace; Dennstedt's apparatus; Beckman's boiling-point and freezing-point apparatus; analytical balances; a Kew pattern barometer; large steam oven and still.

Chemistry was the first science which was taught on a large scale in laboratories. The first great laboratory teacher was Liebig. His method was the method of research, where the master looked upon his students as a body of assistants to help in his investigations. It is the method adopted by all the great masters, it is the method which has been followed in many schools, and it is one which it is not impossible to follow, in part at least, in all departments and subjects of a school. It will bind together in closer sympathy the master and the pupil. Here are words in praise of the method and in honour of a great master: "His students felt a pleasure in submitting themselves to his fascinating, inspiring control. If anything could exceed their wonder at the amount of work he did himself with his own hands, it was the wonder they felt at the mountain of toil he got them to go through themselves, and if anything exceeded their pride in his friendship and approval, it was their delight to know that they helped him, and that whilst they were receiving his lessons they were also performing his work." A picture of a great creative master, a picture of a school as we would like it to be.

A syllabus for junior boys, 13-15 :—

Many of these experiments are duplicates and triplicates showing the same principle; for these the co-operative system is good, the results being gathered together in the subsequent and necessary discussion.

Heat magnesium, lead, copper in air—note increase in weight and new body formed.

Leave iron filings in air in a bell jar over water—note new body formed and change in volume of air.

Burn phosphorus in air in bell jar—note new body formed, soluble.

Burn phosphorus in air in bell jar over water—note solution of new body and alteration in volume of air. Measure this and examine action of residue towards combustion.

Heat mercury in air for a long time—note new body formed.

Heat some of this new body strongly—collect and examine the gas.

Prepare oxygen from potassium chlorate and manganese dioxide—examine its properties.

Prepare oxides of phosphorus, carbon, sulphur, sodium, potassium, calcium, iron—examine solutions (iron oxide insoluble)—effect on litmus—oxyacids and bases—metals and non-metals.

Preparation of salts. Copper oxide, magnesium oxide, zinc oxide, lead oxide, sodium oxide, potassium oxide, calcium oxide, etc., and dilute acid—neutralization—burette work and idea of definite composition introduced—crystals produced.

Metals and acids to give hydrogen—Zinc, magnesium, iron and dilute acid give salt and hydrogen—crystallize salts—properties of hydrogen.

The burning of hydrogen—
water = hydrogen plus oxygen.

Hydrogen from water—
steam over iron and over magnesium = oxide and hydrogen;
calcium and sodium on water = solution of oxide and hydrogen.

Hydrogen over metallic oxides—by weight—note water formed.

Electrolysis of water.

Experiments with iron and sulphur, etc., leading to idea of element, mixture, compound, atom, molecule, symbol, equations. Representation of past experiments by equations.

The law of definite composition—results of past experiments used and others done to illustrate it.

Chalk and acid—examination of gas.

Carbon burnt in oxygen—examination of gas.

Experiments with Ault's apparatus—weight of CO_2 from chalk.

Heating of chalk—experiment by weight—examination of lime. Chalk = lime and carbon dioxide.

Burning of calcium—examination and recognition of lime. Chalk = calcium and carbon and oxygen.

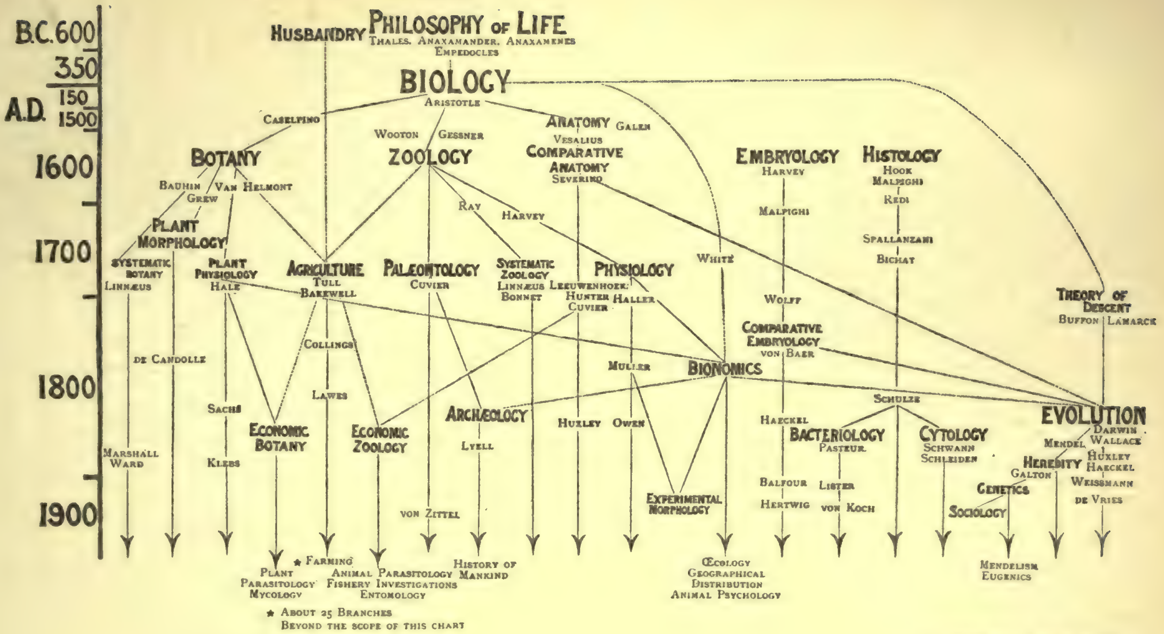
Passing CO_2 into lime water.

Hard and soft waters—removal of hardness.

§ 15

Biology.

The map of Biology is abstracted from a large time chart made to display the coming of Biology. A few of the names of the founders of the science have been given. It is a map of the immense territory of discovery which has been opened up during the last century. The map shows a wealth of streams flowing down into the new world, each one bringing new life and purpose to mankind. Even in this sketch form there are twenty such streams, some just starting on their course, each one quivering to divide into numerous separate streams. To name a few—Agriculture, Physiology, Bionomics, Bacteriology, Heredity, Genetics, Economics—and the map shows cross streams joining two or more of the main streams; it shows the streams converging from widely



B.C. 600
350
A.D. 150
1500
1600
1700
1800
1900
HUSBANDRY
PHILOSOPHY OF LIFE
THALES. ANAXAMANDER. ANAXAMENES
EMPEDOCLES
BIOLOGY
ARISTOTLE
CASELPINO
WOOTON
GESSNER
ANATOMY
GALEN
VESALIUS
COMPARATIVE ANATOMY
SEVERINO
BOTANY
ZOOLOGY
EMBRYOLOGY
HARVEY
HISTOLOGY
HOOK
MALPIGHI
REDI
BAUHIN
GREW
VAN HELMONT
RAY
HARVEY
MALPIGHI
SPALLANZANI
BICHAT
PLANT MORPHOLOGY
SYSTEMATIC BOTANY
LINNÆUS
PLANT PHYSIOLOGY
HALE
AGRICULTURE
TULL
BAKEWELL
PALEONTOLOGY
CUVIER
SYSTEMATIC ZOOLOGY
LINNÆUS
BONNET
PHYSIOLOGY
LEEUWENHOEK
HUNTER
HALLER
CUVIER
WHITE
WOLFF
THEORY OF DESCENT
BUFFON
LAMARCK
COMPARATIVE EMBRYOLOGY
VON BAER
DE CANDOLLE
COLLINGS
MULLER
BIONOMICS
LAWES
SACHS
SCHULZE
ECONOMIC BOTANY
ECONOMIC ZOOLOGY
ARCHÆOLOGY
HUXLEY
OWEN
HAECKEL
BACTERIOLOGY
PASTEUR
CYTOLOGY
SCHWANN
SCHLEIDEN
EVOLUTION
DARWIN
WALLACE
MENDEL
HUXLEY
HAECKEL
HEREDITY
GALTON
WEISSMANN
DE VRIES
MARSHALL WARD
KLEBS
LYELL
GENETICS
SOCIOLOGY
BALFOUR
LISTER
HERTWIG
VON KOCH
EXPERIMENTAL MORPHOLOGY
VON ZITTEL
PLANT PARASITOLOGY
MYCOLOGY
* FARMING
ANIMAL PARASITOLOGY
FISHERY INVESTIGATIONS
ENTOMOLOGY
HISTORY OF MANKIND
ŒCOLOGY
GEOGRAPHICAL DISTRIBUTION
ANIMAL PSYCHOLOGY
MENDELISM
EUGENICS
* ABOUT 25 BRANCHES
BEYOND THE SCOPE OF THIS CHART

Drawn by E. W. Shann.

separated longitudes of the map to form a stream flowing down into posterity. Each branch is waiting not for a few workers, but for many. The field for work and research and application is amazing.

It is for schools to study this geography of the new world. They can at least take some boys along the banks of the streams, and some can make a beginning in one or more of them, and most can get some insight into the wide country which lies in front. For the immediate work of reconstruction the world is waiting for pioneers, and the best place to find or enlist pioneers is the school.

We are met with the difficulty that Biology, it is said, does not lead to any employment except in medicine and agriculture. But we are on the rise of great developments for which the new education must prepare, and indeed lead the way—lead the way by the inspiration it can give, by the evoking of special talents, by enlisting boys into the new service. There is every sign that recruits will be wanted in the field of medical research, in sociological and economic branches of the State service, in administrative and technical departments, in diplomatic and administrative work throughout the Empire, and in education.

In every public school, or central school, ample provision will be made for Biology. Equipment on a large scale will be required if Biology is to take its true place in education. Biology will be taken by all the junior divisions of the school, including boys of the elementary or preparatory school age. From the early stage upwards there should be a range of forms in which Biology is the chief study. In the language of the curriculum there will be Biological IV, V, Remove, and VI forms. By such organization boys of special talents and tastes will find their opportunity to get at "grip" with the work they can do best. This does not imply more specializing than is desirable. It may mean the disappearance in whole, or in part, of some subject which does not appeal to the boy.

In reference to the equipment, each school should set before itself the policy of providing what I have for a long time called "miniature copies" of the great seats for the study of Natural History. The public and secondary schools should have them and the elementary schools should also have their own suitable miniatures, having also the advantage not of visiting but of using the larger ones. For it should be observed that schools should not depend upon *visiting* other institutions. Just as each school should have a large library of books of its own, and each boy a growing library of his own, so each school must have its own homes of science and art.

I have in mind that the equipment of a school should include miniature copies of the wonderful Natural History Museum at South Kensington, with the workroom opening off the galleries; of Kew Gardens; of the Zoological Gardens; of Jermyn Street Museum; the Royal Horticultural Society's gardens; the Rothamsted Scientific Farm.

It would be of highest educational value for a school to develop such miniature copies, or shall we say objective guides. A magnificent example of such a copy, or objective guide, is the Great Central Hall of the Natural History Museum. Such guides serve as organized indexes—the name which was used by Sir William Flower, the creator of the Central Hall. From small beginnings schools year by year could build up great indexes to the homes of knowledge, just as we have seen they may have the higher function of becoming the germ or embryo, or seed-ground. Schools might become microcosms of the creative world.

I will enumerate briefly examples of the chief requirements for the work in Biology.

(*a*) A Biological Laboratory, say 60′ × 30′. Here are working benches and a plentiful supply of microscopes, so that at least each member of a form may be able to use one. (The microscope, being the chief tool of the biologist, should he put in the hands of boys at the earliest stages.) Aquaria, large and small, with means for aeration; vivaria; insect houses; breeding cages; apparatus for study of bacteriology, physiology, and pathology; microphotographic plant; drawings, time-charts, fossils, models illustrating the development of plant and animal life; seed-testing apparatus.

(*b*) Natural history museum, in conjunction with the laboratory, designed for organized knowledge—distinct from a general museum.

(*c*) Biological garden, including seashore, rock, pond, marsh plants; vivarium; Alpine garden; rose garden; fernery; herbaceous border; natural order beds; experimental plots in connexion with the biological laboratory; shrubbery; greenhouse; potting sheds; trial plots.

(*d*) Experimental farm.

(*e*) An ordinary farm for production.

The work is guided by the same principles which have been indicated for Mechanics and Physics, Pure and Applied. In the early stages the Applied is horticulture or agriculture. Great use can be made of young boys (working under guidance of a senior boy) in such practical work as testing seeds; examining soils; making tests of raw materials, wool, cotton, silk; pruning and other gardening crafts; field work.

Middle forms may have direct agricultural work, out of which will emerge the theory of Biology.

The higher forms may divide between the study of Botany and Zoology, and Agriculture.

There is great scope for individual work and an insight into the divers stream lines of the science can be got by one or other of the form.

An example of a syllabus for boys of fourteen or fifteen may be given.

Note 1.—The work for younger boys is based on a year's course; the great thing is to be doing something; the more they handle and see the better; they also require variety.

Note 2.—The course requires that each boy should use a microscope. The microscope opens out a new and fascinating field, not only to a wider and more accurate scientific knowledge, but to a new appreciation of beauty in nature. Even the humble pond-weed and the dandelion "seed" are seen under the microscope to be exquisitely fashioned, and new ideas of the intricate adaptation of even the smallest living things to their environment are engendered. Some of the greatest advances in Biology are due to the microscope, and an early familiarity with its use is of great importance.

External morphology of the leading types of the vegetable kingdom, e.g. alga, moss, fern, conifer, monocotyledon and dicotyledon. Collection and catalogues of local flora at different seasons, a continuous record to be handed on year by year. An introduction to the use of the microscope through plant tissues. Elementary experiments in plant physiology. Study of flowers, their significance in reproduction. Study of fruits and seeds, their mode of dispersal. The examination of structure and life-cycle of tubers, bulbs, etc. Frequent visits to experimental farms and biological gardens, with lessons on agricultural methods, implements, etc. The natural history of certain orders of animals, e.g. star fishes, spiders, snails, snakes, illustrated by specimens in the school collection. Practical examination of pond life. Outline history of Biology, with notes on its makers, leading up to evolutionary outlook.

§ 16

Agriculture.

The following are extracts from notes drawn up by my late colleague, Mr. G. W. Olive, now head master of Dauntsey School.

The study of Agriculture forms a part of the biological work of the school, and is pursued from the lowest forms upwards. At a later stage it may be taken as the chief science work, and the syllabus may reach towards advanced stages, comparable with the other sciences. It includes Botany, Zoology, Chemistry and Physics, Bacteriology, Microbiology, Veterinary Science, together with Mechanical Science in relation to agricultural instruments.

In addition to the biological laboratary and its adjuncts, there is an experimental farm, and land for ordinary productive farming. The farm is a continuous field of 30 acres, arranged as follows :—

1. 25 acres (*a*) normal farming;
   (*b*) experimental farming.
2. 4 acres, historical development of Agriculture and Applied Biology.
3. 1 acre, demonstration and experimental plot.

The farm should have its own implements, horses, and motor tractor; one good ploughman; two or more men.

Some work which can be done:—

1. Agricultural survey of the district.
2. Advising farmers and landowners—analysis of soil, chemical, mechanical, and biological.
3. Experimental work on the manuring of wheat.
4. Extraction of sugar, fats, oil, etc.
5. Examining seeds.
6. Experiments with flours.
7. Photomicrographical and other examination of natural products, wool, cotton, etc.
8. Experiments on the improvement of fertility in land.
9. Milk analysis.
10. Food analysis.
11. Analysis of manures.
12. Study of pests.
13. Poultry.
14. Experiments on plant nutrition.
15. Life-histories of lepidoptera.
16. Protective mimicry.
17. Natural products and natural industries.

§ 17

Geology and Geography, in their relation to Science and History, are closely associated with Biology on one side and with Literature, History, and Art on the other.

I have mentioned that a literary workshop (as it may be called) is a requisite for the effective study of Science. This is not the place to enter into an account of such a building, but it forms a necessary part of the scientific equipment. For the application of Science to Economics, sociology, and politics, it is an additional laboratory. A literary block would provide a commodious working research library (say 110′ × 50′); a gallery for modern languages books, especially foreign books on the new problems; a gallery for Geology, Geography, Palæontology, Anthropology, Ethnology, Economics, and so on—with the side rooms; a working natural history laboratory and museum, where masters and boys could exhibit and examine the products of different countries, study the present-day conditions of many lands and their potentialities—a "live" geography.

It has been the object of this essay to advocate, as a guiding principle of education, that education should be based on the consideration of the present needs of the people; that schools should make it a part of their work to investigate the conditions of society and to trace the historical changes that have taken place. Generations of boys will accumulate an abundance of facts which will strike the imagination and direct effort. These facts, and the general trend of things, can be exhibited in an attractive, informing, and instructive manner in the form of charts. The charts will proclaim the activities of men, their discoveries, difficulties, aims. They will proclaim the work done for a state, or city, or locality, by the great men and women of the past. They will rescue the works of men which history has neglected. They may change the value of things. Every school, every locality, every industry might build within their boundaries a new kind of chapel, or hermitage, or temple, where man's great deeds, man's progress, and man's needs would be visibly recorded.

A section must be added on continuation and adult education. The method here advocated, with a central school equipped in close co-operation with the life of the community, leads forward without any break to the continued education. It may claim to attract young men and women on to further study.

It is hoped, too, that all fear of scientific, technical, and vocational studies will have passed away. But at the moment this fear exists, and there is a great wave towards literary and artistic education as a counterbalance to the ordinary life's work. We believe that this arises from a misunderstanding of the drift of thought amongst the workers in Science to-day. The mechanical age of Science is being succeeded by a new spiritual age springing out of the revelation of Science.

The unique field of labour before Science is to show forth the beauty of man's daily life. The effort of scientific men is to rescue man from dull monotonous slavery of toil. The purpose of discovery and invention is to turn occupations into creative occupations. The object of education is to reveal the true spirit which lies hidden in the average life. The problem is the true diagnosis of the diseases of society.

These questions depend for their solution less upon changes in the nature of the control of labour than on the nature of the labour itself. Only incidentally will the controls, from capitalism through co-partnership to syndicalism, affect the seat of the disease. The disease rests in the nature of the work. The true need of the worker is to have his natural instincts of creativeness, of growth, and development of life satisfied by his work. Neither higher wages nor shorter hours will effect this.

The remedy for the disease of labour which finds a wide and, as things are, natural, acceptance is to restrict the hours of labour, but let the labour remain unchanged, and then provide recreative restoratives. To those who have visions of a great reconstruction of industry through the abolition of destructive non-creative occupations and processes this attitude appears as the "great refusal". The policy of organizing literary, art, and non-vocational education as a relief, to make amends for the character of a man's life-work is, I believe, unsound. It will lead to no change in the work and will end in an anarchic state of the workman. To cultivate a man's literary and artistic faculties, whilst he has to continue in dull mechanical work, divides his life into two antagonistic states and drives him to rebellion or death. "The question for a nation is not how much labour it employs, but how much life it produces."

It will be the duty of education, both in the schools and in continuation and adult life, to "teach the average man the glory of his daily work and trade". It will be the further business of vocational and technical education to transform labour—transform it so that it becomes the glory of the workers' life. This, we believe, is the great work before education. It is scientific work, technical. It cannot be done in "works" schools—except under exceptional control. It is the work before the State.

THE TEACHING OF GEOGRAPHY

By Professor H. J. Fleure, D.Sc.

Introduction

EDUCATORS need to make a careful survey of their aims and methods in these days of deep change and criticism. There has recently been far too much preparation of human fodder for the industrial machine, with the disastrous results we have had to suffer in the terrible years 1914-19. Even now in our impoverishment, the cry often is for accelerating that dangerous machine, in order to pay war debts, and for shaping education so that it may provide that fodder ever more quickly and efficiently. Technical education there must be, and we must all support its just claims, but we shall be wiser if we look beyond the working of the industrial machine and try to build up future citizens of humanity who will have some preparation to appreciate the diversity of problems, of opportunities, of governmental and of social needs among their fellow-men the world over. This implies the need for spreading right through the population an educational preparation that will furnish a growing and broadening interpretation of the modern world with all its rich variety of effort and achievement, of contributions to human life, of difficulties in the maintenance of society. Humanists have been far too much inclined to take man as man for granted, and this has inevitably led not only teachers, but also statesmen and philosophers, to a view of all mankind in a procession struggling up one and the same ladder with our particular nation, whether we are British or German or American or French or what not, at the head of the procession. Peoples differing from ourselves are esteemed to be backward in some way or other. It is thought to be our duty either to force or to wheedle them, at whatever pace we can manage, towards the light. We have surely realized the self-prejudice that vitiates this point of view, and we must see to it that the problems of mankind are studied with less and less of that prejudice and a more ardent desire for the whole truth, towards the attainment of which not only logic, but also sympathy must bring its tribute. To that better education, it is claimed that Geography can contribute in a very special way. While it was necessarily out of focus in the educational schemes of the generation of industrial preliminaries of the war, it must play its part in education and research for more comprehensive truth, and it has a part that nothing else can play for it.

The accepted sphere of Geography is the description of the earth, and, in education, this must be held to mean, most of all, the earth as the home of men and women and children. The plural form is very necessary here, for if we use the abstract term "man" we inevitably think of men as judged by one standard, and that too often merely our own, instead of as diverse by heritage and opportunity, with a diversity to be cherished as contributing to the spiritual wealth of humanity. Geography thus set forth becomes the educational instrument that is most specially concerned with the interpretation of the modern world. It will show how men of different heritages find different problems in the same environment, and attempt to solve these in different ways, strikingly illustrated when we contrast the work of the aborigines and the white settlers in Australia, or the attitude of Americans and Orientals in, let us say, California, or the relations of the industrial worker and the rural labourer to the land around our British towns. It will also show how each environment presents characteristic problems and opportunities to its people, how the predicable alternation of a fair sufficiency of sun and rain has encouraged settled life and civilization from far-off times in certain lands, while in some others, without the long dry warm season, wet forest had to be conquered ere settled life could grow beyond a rudimentary beginning. And it will go further and show how various the settled life can be within the limits of these two typical environments. But it will not be content to treat of the influence of the environment upon human efforts; to stop there would be to encourage a very inadequate philosophy of life. We are not merely the creatures of our immediate environments. Geography must look back into the past, and show us how in many parts of the world, and nowhere more than in our own, ages of effort have modified the environment. The wet forest has been conquered and cut, cut only too completely in many parts, and where oak or beech, or both, grew naturally, it has become possible to grow wheat unless the slopes are too steep, or the soil too thin. But, where the pine forest was the natural covering, cultivation has rarely been encouraged, for the pine is a sign to us of poor soil conditions for the activity of roots in drawing up moisture for the leaves to transpire, and the pine leaves are built for the severest economy in this respect.

Geography thus approaches what may be called Social History, and educators must study very carefully its relations to the teaching of History. None the less, it has its own place, not subordinate to, but co-ordinate with, History.

Geography approaches just as clearly the physical sciences which, as Physics and Chemistry, Geology and Biology, study the facts of the environment.

It is the special duty and privilege of Geography to serve as a link between the two faculties, the undue separation of which of late years has been a calamity both educationally and scientifically. The student of the humanities needs some touch with scientific ideas to guard him from unreal abstractions; and the student of scientific ideas needs the touch of the humanities to guard him from pitfalls of determinist materialism.

Is, then, Geography in education merely an attempted combination of scientific and humanist elements, a mere gathering up of facts culled from other disciplines of study? This superficial view has done some harm to the subject, it being quite rightly felt that if a subject is to have a place of importance, at all events in the upper forms of schools, it must have a unity of its own with a mental discipline that belongs specially to it. That unity and that discipline which a subject requires to justify its position in education are, however, eminently characteristic of Geography when a course is planned with the proper care for essential contents.

GEOGRAPHICAL DISCIPLINE

Let us consider, first, the question of mental discipline in a geographical course.

Among all the documentary records that men may make, there are few more vital or more complex in their relations than maps. The cheaper maps of some years ago with a colour for each independent state, or each division of a state and subordinate indication of physical features, were expressive in their way of the domination exercised over us by concepts of the nation-state and its aggrandizement, but they too often encouraged mere quantitative estimates by conveying the impression that political units were to be compared first and foremost as regards statistics. Who does not remember the tables of comparative areas of various empires, British, Russian, Chinese, Japanese, German, French, and so on? The influence of Drs. Bartholomew and Herbertson in this country told heavily in the direction of replacing these maps by others in which the physical features stood out boldly and the political units were indicated in subordinate fashion. This aroused educational interest in the physical character of each country, i.e. it showed the relation of the transient political features to the more durable physical ones. Herbertson concerned himself very specially with the spreading of climate and vegetation maps in the schools, and these, studied with the orography, gave a good idea of the physical conditions of human life the world over.

There now are maps displaying generalizations of the orographer, the climatologist, the naturalist, and it is endlessly possible to improve them, so that points of intense human interest, overlooked in the early stages of generalization, may be brought out by more delicate portrayal of the complex reality. Thus many vegetation maps of Europe have an almost straight line from the Dniester north-eastward to beyond the Volga to indicate a boundary between the oak forest of Muscovy on the north-west and the steppe lands on the south-east. It would have been better had patches of forest been inserted, especially near the river banks, on the steppe side of the line near the Don and the Dnieper. This would have demonstrated the special trees-and-grass (park) character of the unit we are now learning to call the Ukraine. Generalized maps are always capable of improvement, and offer scope for both creative and interpretative work which is quite without limit so long as the human drama continues to unfold itself on the world's surface. Maps are needed giving generalizations about cultivation, about social facts, about industrial activities, and so on *ad infinitum*, and they are wanted not only for the present and the opening future, but for the past as well, that we may grasp more fully the setting of the evolution of human life and society. Generalized maps, then, offer unlimited scope for study, for exercises, and for creative effort, and they do this both as regards maps of continents and oceans, countries and seas, and as regards maps of small areas of whatever relief.

In its Ordnance Survey, our country has an institution of which it may well be proud. Its beautiful detailed maps, with their fine accuracy of topography, have been found during the war to offer splendid mental training to the student, training which must be painstaking, which does not admit of cramming or memorization without thought, and which can be checked by actual observation round about us. The Ordnance Survey map is a first-class educational instrument, and it is especially in the upper forms of schools that pupils will learn to read it, will begin to see how it gives clues to all sorts of characteristics of everyday life. If they can take an interest in its amendment as regards place-names and monuments of the past, they will find it a useful introduction to critical observation and to a department of public service that needs much more attention. Again, the Ordnance Survey map, or a simplification of it, may be made the basis for the mapping of all sorts of data teachers and students may collect, e.g. the health statistics of a town often show a vivid relation to questions of situation and crowding when placed upon, let us say, the twenty-five inch map.

If, to go one stage further, the school or college is so staffed and equipped as to make the construction of maps on the ground actually possible, a whole field of intellectual activity and interest is opened up with endless opportunities of training the critical and generalizing faculties on the most meticulously exact foundations. But the country, not the map, is the real matter, and the student and teacher need to picture the country behind the map. For this purpose there is need of thoughtful imagination and especially of a great deal of humanist study.

The map, then, in all its forms and phases, through its study and interpretation, and when possible its construction, offers an educational discipline with increasing scope for originality on the part of teachers and taught; it is a discipline which will always sort out the careless or the badly educated pupils. No amount of examination skill or cramming, no glitter of phrases, no learning by heart, can deceive the examiner here. It is an even better test than a laboratory experiment in an examination, because the laboratory experiment may be merely a repetition, so close as to be almost identical, of experiments done under orders. Such complete repetition in the case of a map exercise is so unlikely as to be almost impossible. The possible variations of such exercises are endless. A child may have practised "inserting the best course for a railway" on forty-nine maps; it still has to be argued out for the fiftieth, and the work demands judgment step by step. On the other hand, it must be owned that we have not yet rid ourselves of all danger of mechanizing such exercises. Dull diligence and hard work will not suffice. There must be thought, and this enforcement of thought is certainly one strong claim Geography makes for a place in education, and especially in the education of adolescents. It is only with the oncoming of adolescence that pupils can reach the stage of beginning to appreciate the finer points of a map. How many thousands of lives might have been saved in the last few years had this education been more widespread, especially among our officers! In the emergency, military map-reading classes were called into existence suddenly and without hope of giving more than a smattering of this all-important training.

The "*map*," in a word, is one of Geography's most special claims to a discipline peculiarly valuable and peculiarly its own, to an educational discipline especially for the upper forms of schools, for continuation schools, and for colleges and universities. It is far from being the only one.

In geographical work, facts of direct observation, deductions from personal experience can be used at every turn to check, and at the same time to give vitality to, what is learned about foreign countries; and as it is nearly always possible to illustrate descriptions and arguments by sketch maps, one can tell how far these essential facts have been understood, what fineness of appreciation the student possesses. There is less danger than in several other subjects of the mere swallowing of ill-appreciated details learned by rote, or, rather, such weakness can be detected with unusual ease; and the study of life in other lands may be given an actuality a purely book-subject could not hope to develop. The extraction of the geographical background of literature, again, offers special scope for individuality of work, and here again the making of sketch-maps gives opportunity, imparts a sense of reality one would go far to seek elsewhere. In this relating of all sorts of information to actuality, to concrete reality, and its portrayal on maps, which admit of infinite refinement but can also be as simple as the case may require, lies another claim of Geography to a discipline of its own, the discipline of *actuality*.

The third discipline has already been mentioned above; it is the discipline of toleration and appreciation. Few studies go so far as Geography towards making us see ourselves as others see us. Wisely taught, it inculcates the "Morale planétaire" of the French Geographers, and the need for and importance of the discipline of toleration is so outstanding that it does not require further argument. It must be increasingly recognized as an essential factor in the quest for comprehensive truth.

The discipline of exactitude and criticism involved in map work, the discipline of actuality involved in comparison of our own surroundings with lands of which books and maps tell us, the discipline of toleration involved in seeing ourselves without self-prejudice among the children of the planet; these are features that Geography contributes in its own special way to education. No other subject can replace it.

UNITY OF GEOGRAPHY

The unity of Geography next falls to be considered for the justification of its place in education, and in order to argue this out it is necessary first of all to dig down to philosophical foundations.

The humanist studies of the nineteenth century have been deeply influenced by the ideas which we suppose to have been brought into current use through the influence of Hegel. According to these views, the categories of our minds, in other words the logical constructions of ideas our minds build up, are our nearest approach to reality. The value of the construction inevitably depends on the basic general ideas upon which it is built, and these general ideas are as inevitably very abstract. Such systems, therefore, tend to proceed from the abstract towards the concrete by the logical setting together of ideas. In the end they are confronted with actual experience, and judged according to whether they resemble it, or help to interpret its meaning, development, or supposed purpose.

In using Hegelian systems, it has thus been natural to thread our studies upon a general idea, and, in the nineteenth century, it was naturally enough the State, and more especially the Nation-State of Western Europe, that was among the most interesting of such ideas. The State in the abstract, as that which provides opportunities, drawing out the individual's higher faculties and better efforts, as the individual without his personal limitations in a setting of idealized fellow-citizens, is an attractive concept. But it soon graded into the State-in-particular, and, of course, the State of which the thinker formed a part, and there spread the habit of over-idealizing the State-in-particular, the habit of State worship.

The study of the actual life, the average experience of the citizen, has been too much neglected, and needs even more emphasis than it has received from the more thoughtful writers of recent years.

As an approach to reality, the scheme of building up logically upon abstract general ideas is a poor one. Life is more than logic, and general ideas are thin substitutes for facts of every day. Surely, what is most real to us is our experience, and it is of the very essence of experience that it runs continuously through life, it is a continuous stream indivisible into separate sections unless we are willing to sacrifice its flow. How then can separate sections, however pieced together, be made to represent it; and, in our experience, how much unfolds itself which can by no manner of means be called logical in its development? So the method of putting together the sections is at fault as well. We must try to appreciate, to study, and to portray experience, past, present, and possible, and must use for that purpose all the faculties of our minds. There is a place for imagination and for creative expression, as well as for logic, always provided these imaginations are checked by our fellows if it be claimed that they portray general experience.

Again, into our every act and thought there enters a long stream, nay, there enter long streams of memory, stores of past experience; and so past experience helps to govern future experience, directly and psychologically. But each action modifies our environment in some way or other, and so changes the setting of human action for the future; and no one who has realized the depth of meaning in the oft-quoted "All the world's a stage" will need to have it argued for him that its setting influences human action in the subtlest ways.

It is as the study of human experience with more special reference to its physical setting, and to the subtle and ceaseless changes of the setting, that Geography lays claim to an internal unity. That its separateness as a "subject" is not to be exaggerated is none the less very clear. The sister study of History is likewise concerned with the study of human experience; but here the special relations are psychological and chronological. It is a study that depends much upon judgment in the selection of facts of past experience, so as to give sequences that have the greatest possible meaning. Anthropology is the sister of both History and Geography, and is concerned, again, with human experience, but this time in relation to the types of men undergoing it, and to the discrimination of the types of that experience. The tendency to separate these sister studies in the past generation has been a calamity, and it is by interweaving them ever more intimately that we shall approach our goal.

Anthropology must emphasize the discipline of type, History the discipline of time, Geography the discipline of place, and all three must co-operate among themselves, and with other studies as well, to record more adequately and interpret more fully and more usefully the course of human experience, individual and social, past, present, and possible.

Geography in education is thus specially concerned with the true estimation of the part played by "place" in the drama of humanity, both as it unfolds itself before our eyes and as it has unfolded itself in past ages. Now the place relations of human action are not given by any mere statement of area or coast-line of some state, and it is one of the weakest points in the study of Geography, when it is unduly subordinated to History, that such matters are over-emphasized. "Historical Geography" becomes often merely a study of the changes in area and in approach to the sea or other waterways determined by treaties following the various wars.

The place relations or circumstantial relations of human action are complexly built up of facts of situation, orography, earth-structure, and climate, and all these topics certainly need study. Here the geographer meets the geologist and the meteorologist and helps them to estimate with due regard to one another's facts, and to facts of other orders, the bearings of their own conclusions upon human life. Pure Physical Geography is not so much a part of a Science of Geography as of a Science of Geology; but the bearings of the conclusions of the physical geographer or geologist on the drama of life are undoubtedly a sphere of work of the geographer.

Fortunately for geographical progress, we can go on from structural, orographical, and climatic maps to maps of natural vegetation or of cultivation, and these, if built up with sufficient thought, sum up for us a great deal of the setting of human life and work. The hot desert, the equatorial rain-forest, the steppe are found in certain parts of the earth for reasons in part of earth-structure, in part of surface relief, in part of climate, and so on. The "vegetation map" is thus to some extent a synthetic effort forming a valuable introduction to the study of the place-setting of human problems; for each of the great vegetation belts just named has its characteristic human problems and opportunities, and makes its special contributions to human life. The herders of the steppe, the religious and trading communities of the desert, the hunter-gatherers of the rain-forest, are all important varieties of human society, all related both to problems of past history and to those of present and future politics. The "vegetation map" therefore gives us, more than almost any other, the clues we need for studying the place-setting of human life. Reference has already been made to the fact that there is endless scope for improving these maps, for refining our generalizations. We shall nevertheless always remain deeply indebted to Herbertson, especially for his work in spreading the use of these vegetation maps in schools and colleges. They are the maps the historian also needs to help him. Let us consider a few examples of the interest of the "vegetation map".

Of the country we call Finland, only the south-west portion can grow the oak; the back country, with its tangle of lakes and moraines, is occupied by pine forest. The agricultural poverty of pine forests has already been mentioned. This one is thinly peopled, and really forms a broad barrier zone between the Russians and the Finlanders, the latter of whom live chiefly on the south-western patch which repays cultivation. The situations of Abo and Helsingfors are useful indicators here. But this concept of the essential Finland is useful in other ways; it makes us see at once that Finland belongs to the Baltic, and that its amalgamation with Russia was an artificiality, however near the exotic city of Petrograd might be to its nominal borders. Resemblances so often noted between the Finlanders and the accessories of their life on the one hand, and facts of North German, Swedish, and even Danish life on the other, become more understandable if this concept be allowed, and, finally, if we remember the background of pine forest, we are able to appreciate the fact that the survivals of ancient "Mongoloid" peoples and traditions, which probably occur round most parts of the Baltic, are more marked in Finland than elsewhere, for the pine forest acts as a refuge strengthened for this purpose by its abundant lakes forming important barriers. This example is given in detail, largely because the importance of this aspect of geographical study as a part of humanism is as yet inadequately appreciated. A further example from another part of the world may be added. It was in midland North India (Kanauj, Magadha, and Oudh) that caste systems grew up, and this was the special region of dominance of the warrior caste, the Kshatriya, replaced in later centuries by the Rajput clans. Their home is the transition from the open lands of the north-west to the formerly immense forests of Bengal, and it is here that the shepherd warriors of the open lands had to organize so as not to be swamped by older peoples cultivating clearings near the forest edge.

We need then to know all we can about the setting of the stage for human action, and maps which give us information about possibilities of cultivation and settlement, or, on the other hand, of the need for nomad pasturing and so on, are of the greatest value. But in making them and using them we need to bear in mind that, as has been well said recently by Fairgrieve, the stage of life differs from the stage of the theatre in that it is never cleared for the next act. Maps of past as well as of present conditions have to be made, and we have to see thence how the environment has often been altered. The greatest alterations man has made have been through forest cutting, coast protection, irrigation, and application of mechanical power. It is when we reconstruct the primeval forest of China that we understand why the Weiho Valley is the region by which the Chinese entered their country, and why their type becomes less pure as we go south from the right bank of the Yangtse-kiang into what were once the depths of the forest. Similarly, a map of France, with the primitive forests and swamps marked on it, makes many things clear, and notably the difficulty of radial communication in the Paris Basin of old, and the greater ease of communication along certain more or less tangential lines such as that between Burgundy (Cluny) and Bordeaux, *via* Le Nivernais and Berry. The importance of that line in connexion with early literature and pilgrimage should be called to mind, and the student will easily go on to the conclusion that many pilgrim ways, with their important literary associations, are the survivors of ancient roads developed before the forests were conquered. These examples have been given in some detail here, because it is so important to realize that not only does Geography help us to see the present setting of human action, it can also help us to appreciate something of the dynamics of social development. Indeed, when the vegetation map is used solely to picture the present setting of human action, there is a grave danger that we may be led to think of human affairs as in an equilibrium, which really never can occur; the process of change must wind on unceasingly. By helping to show the place-setting of this increasing process of change, Geography may make a valuable contribution to knowledge, because it can divert a little attention from the over-emphasized political and diplomatic aspects of those changes, and bring out the truth that political and diplomatic changes are often but the definitive expression of alterations which have already been long in progress in the setting of human life. The student of Africa knows of the persistence and strength of native states in the Sudan, however much they may have been affected recently by Europeans. They are typical of the belt of scrub-land between the desert on the north and the savanna on the south, and proprietorship of the more cultivable patches of that scrub-land has naturally encouraged a territorial basis of society, so that the vegetational conditions were a specially powerful factor in shaping the social life of the Sudan, and the vegetational map here again gives us a clue to the setting of human action. As Northern Nigeria is the scene of an interesting experiment in the relations between black and white based upon the principle of encouraging the natives to improve the cultivation of their own farms under their own direction, the matter has still wider bearings.

At the same time, it is important to remember that the vegetational map will by no means always give us the clues we need, the ordinary topographical one often does this itself, and each case needs study for itself. For instance, a vegetational map of Ceylon, Madagascar, the British Isles, etc., gives only partial clues to the fact of the persistence side by side of diverse elements in these and many other islands of the world. To appreciate that position, we may draw lines, in imagination, from various continental shores to the island. Then we shall realize that these many lines of communication abutting upon the island, or using its harbours as a port of call, give the island the opportunity of acquiring and retaining in its different parts different links with surrounding lands near and far. Guernsey in its twenty-five square miles crowded with forty thousand people nevertheless preserves marked and ancient differences of dialect, and place and family names. The long island in the Outer Hebrides has three characteristically different units, in all probability with divergent racial origins as well as contrasts in social activities. And in both these cases, and many others, the persistent distinctions between the different elements of the island people are correlated with different external contacts. The case of Japan shows these conditions masked and complicated by the action of further factors, which are discussed by Professor Roxby in the "Geographical Teacher" (Spring 1920)[1] and so need not be detailed here.

If Geography builds upon maps of orography, structure, climate, and vegetation, as its foundation, it is also concerned with the mapping of human distributions of all kinds. We need maps for particular types of human work, whether in agriculture or in pottery, or in architecture, or in any craft or industry, present or past. As regards the past, we need to borrow sufficiently from the sister study of History in order to avoid the current error of mixing up facts related to widely divergent periods in one and the same map. The aim of the geographer is not merely to give a map on which the historian can find places mentioned incidentally in his narrative; it is to picture the setting of the human drama, to portray the place relations of human experience, past, present, and possible.

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[1] Since published as part of a pamphlet on "The Far Eastern Question in its Geographical Setting," by Professor P. M. Roxby, 1920, obtainable from the Geographical Association, 1 Marine Terrace, Aberystwyth.

It is this task which, most of all, unifies Geography as a study, not, it is true, a study marked off by some clear fence from all others, but rather a study in close co-ordination with others, yet hardly subordinate to any. As soon as it is made subordinate, even to History, both Geography and History are impoverished, almost as seriously indeed as when these two sister studies are torn asunder as they so often have been.

Content of Geography in Education

We must next survey a few of the most essential parts of the content of Geography, and in doing so we take for granted as fundamental and without further argument the need for map work of all kinds to the highest possible degree. This has already been discussed in an earlier part of this paper, and it now remains only to set forth what part this special study is supposed to play. The skilled craftsman should be master of his tools, and, if he is able to make and to mend them at need, it is all to the good. The map is the geographer's tool, and the more he knows about it the better, about its preparation, its utilization, its correction, and its improvement. There are fairly good craftsmen who know little enough about tool-making and tool-mending, and there are fairly good geographers who know less than they should about map-making; but it is a defect nevertheless. On the other hand, one may be allowed to have a little hesitation about considering the tool-maker as a craftsman in the art the tools are made to serve; and one must similarly hesitate a little about the fullness of the geography of some who are interested in little beyond the actual making of the fundamental topographical map. Fortunately there are few such geographers, though there are many doubts and divergencies of opinion as to how far beyond this work the geographer should go.

Map reading may be placed next as a part of the context of Geography for educational purposes, and this work should go on hand in hand with Geometry. It is a grave drawback to the majority of people that they cannot consistently think in the three dimensions of space, and Geometry has a special duty to develop that power. Left to itself, however, it is apt to become too highly abstract, to relegate this work to the advanced classes seriously studying the conic sections. Linked with Geography, and with Geology too, it may be vividly related to facts of common life. The contour line is the line of intersection of an irregular surface and a horizontal plane. Again, the main facts about mountain folding, which the adult student of Geography should not neglect, imply some understanding of the pitch of folds of rock as well as of the idea of dip of strata, and to read about the morphology of a mountain range intelligently one must try to "see solid".

The next item of the geographer's work is a matter of possible controversy because it overlaps the work of the geologist. The geographer must, nevertheless, know as much as possible of the structure of regions, and of the scientific interpretation of their physical features, be they regions of land or of water. For his work the relation of physical features to human activities would seem to be of outstanding interest so far as educational purposes are concerned, and, in teaching about the structural or physical features themselves, he can often make them much more interesting to his students by referring continually to points of human importance. Such references have special value in that they enforce attention to the country behind the map and to the experience of the country's inhabitants. The regions rich in mineral veins are of certain marked physical types, and the disposition of the mineral veins has its important physical basis as well as its interesting human relations in the majority of cases. The lowland "gates" between uplifted structural features, such as the gate of Carcassonne between the Pyrenees and the Plateau Central giving communication between Aquitaine and Languedoc, the gates of Belfort and of Cracow, also with their fortresses, are made more real by mention of those fortresses and of points of interest about them; and the "gates" with fortresses may be interestingly compared with the narrower gates with a fortress at either end, and with those where the fortresses, or one or other of the fortresses, are relatively insignificant or absent. The disposition of passes in a great mountain chain, again, is far from a chance. The great longitudinal hollows (Zones d'effondrement) between great mountain chains and resistant old blocks in front of them, not only are of the highest human importance (Andalusia, the Rhone-Saône trough, the Indo-Gangetic trough), but have physical likenesses which it is instructive to compare, and one may usefully contrast them with zones of sagging on the surface of old blocks, as, for example, Hudson Bay, the Gulf of Bothnia and Swedish Lakes, the White Sea, Russian Lakes, South Baltic, and so on. Islands may be classified into types, provided the classification be not made too rigid, and the comparison of members of the same class brings out many points of human as well as of physical interest.

The disposition of ocean currents has its relations both to facts of atmospheric circulation and climate on the one hand, and to trade on the other. The progress of the tidal wave has both its physical and its important commercial bearings.

Examples might be multiplied without end, but the above are enough to show something of the relation of physical geography to the fullest geographical education.

The geographer again must know as much as possible about climate, but Sir Napier Shaw's great textbook of Meteorology takes him far beyond mere Geography. For our purposes, it is the factors of climate as affecting plants and animals, cultivation, social and commercial life, navigation and trade, that are of immediate importance. If, however, we merely know the facts without any idea of their origins and meaning, the study of climate is a labyrinth of unwholesome detail, so we are very much concerned with the newer views which tell us of different masses of air, at differing temperatures, shouldering one another about, the heavier forcing its way under the lighter which must ascend over it and therefore give up heat; and we must try to learn as much as possible of the newer facts about cyclonic systems and their movements and so on.

Though the geographer cannot be expected to be a biological specialist, it is most useful for him to have knowledge of the conditions of growths of plants, both in general and in particular; but his special concern is with the major plant associations. This aspect of Geography leading up to the consideration of the vegetation map as, in a sense, a synthesis of the facts of physical setting of human action, has already been discussed at some length, and its importance in relation to general Geography is too obvious to need further argument. It is profitable to study the distribution of animals and of human races in relation to vegetation regions, as well as from the older point of view, and the teacher especially will often find it useful to mention the animals of a region, because some of them will stand out in the pupils' minds and will help to fix the characters of the region in the memory. But there are many pitfalls and one must, for example, beware of assigning the tiger to a special vegetation region, as is sometimes done. And the pitfalls in the study of human races are painfully numerous.

The comparison of maps of orography, temperature, rainfall, sunshine, winds, vegetation, population, communications, natural commercial products, industries, and so on, in an area, allows us to experiment in the useful task of discovering the natural regions of which it is composed. If we take France, or Britain, or the U.S.A. as examples for this work, we shall get results which we can afterwards verify, check, and extend from reading of many kinds about the regions in question, and not least from reading of novels and other literature based on their life, e.g. New England in Nathaniel Hawthorne; Wyoming in Owen Wister's "Virginian"; R. L. Stevenson's travel books about France, America, and the South Seas; Provence in Daudet's "Lettres de mon Moulin". A list concerning French regions was given in the "Geographical Teacher" for Summer, 1919, and reprinted later in "Modern Language Teaching". A list of the same kind for England would be an educational asset. Literature and Geography can often be linked educationally with advantage to both, and this is a line the Geography teachers have not as yet sufficiently exploited.

But the ascertainment of natural regions has many other possibilities of interest. France has in consideration schemes for revising her administrative system by creating a number of partially autonomous regions; and the geographer is wanted here. Vidal de la Blache's classic "Tableau de la Géographie de la France," and the works of his followers and pupils, like Demangeon's fine book on Picardie, are of public interest for the intelligent study of this problem, as well as of scientific value in themselves. The study of these questions, for our own and other countries, is work which may interest learners at many stages, and they will all profit by the study of the "Tableau de la Géographie de la France".

The comparison of maps suggested in the last paragraph is, of course, invaluable for all types of social geography and for helping to interpret the social side of history; but, as several references have already been made to topics of this kind, we may pass on to another utilization of the same maps. They are a sound basis for the geography of commerce, a most fascinating and valuable educational subject if tackled well. Here it is necessary to remind oneself continually from the outset that commerce was made for men, not vice versa. It was lack of humanism that has too often reduced commercial geography to enumeration of what places were "noted for" and what were the exports and imports of a country. And, in this branch of the subject, the enumerations rarely had the advantage of the accuracy of the enumerations of capes and bays, now perhaps rather superfluously decried at times. Commercial facts of the world change so subtly and sometimes so swiftly that even the well-known "Stateman's Year Book" goes astray now and then, and many small schoolbooks on the subject are full of errors.

For educational purposes at least, it will probably be found useful by most teachers to consider the people of a region and their circumstances, and then to work out their surplus and their needs, i.e. to treat of trade as accessory to the people in so far as they treat country by country or district by district. But we must also study the objects of trade, and here again one may plead for as much consideration of the human side as possible. Trade, moreover, is worthy of study for itself, and it is a fascinating task to thread that study on a chronological basis with the sequence of the increase of size of ships and numbers of oarsmen in the ancient Ægean, the Phœnician sailors and their methods, the ships of Venice, the Spanish galleons, the little English vessels, the introduction of the schooner and all its interesting consequences, the rise of steam power, the introduction of oil, and recently the beginnings of commercial air transport. And, side by side with water and air transport, we should consider the various forms of land and half-land transport and the changes of roads, rivers, canals, in connexion therewith. The rise and fall of ports and towns may be linked with the changes above-mentioned, and those changes are but a few of the many one might name. The new possibilities and often new dangers opened up with every step forward may be argued out, and all have helped to shape the present and to make the setting of life for the opening future. The geography of commerce could be made one of the most illuminating and fascinating branches of the subject, and all the more easily because so much first-hand information can be collected with moderate enterprise and very moderate outlay.

These are a few of the chief branches of geographical work reasonably applicable in education. How they are brought in must depend upon the personality of the teacher. The requisite unity and continuity will be secured in different ways by different teachers, and, if our examination system were less mechanical, there is perhaps no other subject which would give such scope for legitimate and profitable variation of topics according to the teacher's personality. And we cannot be too clear that this personality is the main factor in educational work. The syllabus is a small matter in comparison.

One paragraph may be added here about geographical research. This may be of many kinds, but, like most types of research in most subjects, it will usually invade the province of another subject. One example in which the invasion is rather marked may be given. To ascertain and to map distributions affecting humanity is a large part of the geographer's task, and, if this brings him to the province of the archæologist and the historian, his co-operation is often very useful to them. From certain types of pottery and so on the movements of peoples of the late Stone Age and the early Bronze Age from the Polish platform or the Ukraine along the sides of the Silesian and Saxon hills right away to Denmark have been mapped by archæologists. The geographer Vidal de la Blache, setting forth the areas of "loess et limon des plateaux," and emphasizing their importance for the encouragement of cultivation and their relative clearness from thick woodland, gave at the same time a clue to the archæologists' distributions for these regions. For they have just the distribution the archæologists have worked out, while a great zone of forest and swamp bars the way north and helps us to understand why some movements the archæologists were studying did not reach the East Baltic. It is one opinion, at any rate, that the geographer may allow his work to overlap that of the historian and the archæologist on the one hand, or that of the geologist or meteorologist on the other, because this overlap is likely to benefit both groups. All sorts of new ideas develop round about the borders of the sciences, and why should they not around the borders of Geography?

Whatever part of the world may be in process of being studied, it is useful to keep up, side by side with such study, the observation and analysis of facts of our own region by direct personal contact. In school it gives an actuality to geographical work of whatever type, and is quite as valuable when the work emphasizes the social or the commercial, as when it emphasizes the physical, aspect of Geography. In fact, outdoor observation and study of our own region typically bring out most clearly the linkage of all the aspects of Geography.

Study round about us, again, gives opportunities for training in the mapping of data and for checking and evolving accurate graphic methods and new graphic devices, as well as for utilizing any artistic and executive talent that may be forthcoming, and may contribute largely to the progress of scientific knowledge by developing powers of expression.

But one of its deepest services is that to which reference was made at the beginning of this essay. By studying our own region, we learn to treat it objectively as well as subjectively, to set it forth for comparison with other regions far away, and to learn thence to diminish, if we cannot abandon altogether, the self-prejudice which so actively hinders the search for truth. Into the study of our own neighbourhood we can hardly avoid bringing the memories of perhaps a life-time of direct contact, and all sorts of other precious assets come into use here. By bringing them in, we cannot but learn that there are for other peoples the corresponding factors of knowledge and of truth concerning their own regions too. So we are helped to study a foreign region for its own sake and not merely as it is related to us and to our concerns. If we do this with the understanding of the setting of human life and effort as our main aim, we shall inevitably work towards that more comprehensive search for truth which the world needs to raise it above the fogs of self-prejudice that are so largely responsible for its present distress.

THE TEACHING OF HISTORY

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I

HISTORY has only recently taken its place as an important item in the school curriculum. The Greeks regarded it either as a form of amusement or as a part of the technical training of the politician. To the Romans it was a mere adjunct to rhetoric. "The master," said Quintilian, "should not trouble himself with pedantic accuracy in matter of fact." His prime business was to inculcate a good narrative style and to develop a sense of artistic beauty in the handling of words. Hence, if historic truth did not accord with the æsthetic or dramatic fitness of things, it should be modified by the crafty imagination. During the Middle Ages History was subdued to the service of divine philosophy, and the sublime fictions which, at Augustine's behest, Orosius had formulated "contra paganos" in the fifth century continued through the millennium which terminated in the Renaissance to furnish all that the incurious mediæval mind desired to know concerning the record of the ways of God with man.

Even the Renaissance did not immediately give rise to the study and teaching of History; nevertheless the revived and critical study of such authors as Herodotus and Thucydides, Livy and Polybius, necessarily resulted in the dissemination of some information respecting the ancient world. It was the national movement which accompanied the Reformation that gave the first strong impulse towards the introduction of definite historical instruction in schools. In 1505 Jacob Wimpheling published a manual of German History, and twenty years later Luther was urging that History should be taught in order to quicken the self-consciousness of the German nation. Similarly in England the sixteenth century saw a host of diligent antiquaries—among whom Hall, Holinshed, Grafton, and Stow stand eminent—who, moved by new-born patriotism, collected and edited chronicles to the glory of the commonwealth and its monarchs. In 1582, in the crisis of the conflict with the Papacy and Spain, the Privy Council gave orders that a manual of English History should be read in schools. There is no evidence, however, that anyone took any notice of these orders; certainly History made no headway against the engrossing humanities.

In the next century Milton, of course, taught it, and drew up a summary of our island story, uncritical and prejudiced indeed, but full of interest, and abounding in marks of the writer's peculiar genius. It was reserved, however, for the French to make the first systematic attempt to incorporate History—scriptural, classical, and national—in the regular curriculum of the Secondary School. The attempt was made by the Oratorians towards the close of the seventeenth century, and they went so far in their efforts to realize their idea as to place the teaching of History in the hands of specialist masters. They were, however, in advance of their day. The so-called Age of Reason was about to begin. It was an era dominated by abstract principle and contemptuous of recorded fact. The minds of men were devoted to the elucidation of imaginary Laws of Nature, and were neglectful of the phenomena of the actual progress of the human race. That this was a misfortune is the opinion of even so deductive a thinker as John Stuart Mill. In his essay on Coleridge he says: "No one can calculate what struggles, which the cause of improvement has yet to undergo, might have been spared, if the philosophers of the eighteenth century had done anything like justice to the past". The philosophers of the eighteenth century, in their ignorance of History, did much less than justice to the past. The result was a disastrous breach in the continuity of French political development. A revolution, wantonly bloody and fatally destructive, took the place of a peaceful constitutional evolution on historic lines. Amid the violent efforts of doctrinaires to realize the anarchic "rights of man" there perished many "old perfections of the earth" which humanity could ill afford to lose. The institution of a calendar beginning with the "Year I" was eloquent of a blind repudiation of the heritage of the past which rendered natural and almost inevitable the equally blind reaction of the Romantic Revival of the early nineteenth century.

It was during the course of this Romantic Revival that both the scientific study and the systematic teaching of History became general. On the one hand, the publication of such collections of texts as the "Monumenta Germaniæ Historica" or the English "Rolls Series" indicates a restored reverence for the memorials of bygone ages and a new desire really to understand them. On the other hand, the introduction of national History into the syllabus of many Secondary Schools in England, France, Germany, and other European countries, points to a revival of patriotism in lieu of the cosmopolitanism of the Revolution, and shows a recognition of the fact that patriotism is naturally nourished by a knowledge of the doings, the sufferings, the aims, and the achievements of the fathers of the race and the makers of the State.

II

The History taught in schools during the early part of the nineteenth century was not, it must be admitted, of a very high order or of much educational value. It was generally vitiated by three defects: first, its aim was wrong; secondly, its method was unscientific; thirdly, its scope was unduly restricted. (1) It was commonly taught, not for its own sake or because of its inherent utility, but for some secondary or subsidiary purpose which it was compelled to subserve. It was made to teach irrelevant and predetermined moral lessons, or it was contorted to further political ends. In this country, owing to the notorious British predilection for virtue, it was perverted to the inculcation of sound ethical doctrine. History became philosophy teaching by example, and honesty was shown by carefully selected illustration to be the best policy. On the Continent the dominant influence of politics tended to determine the historical curriculum. Even the History of Greece was employed to discredit democracy, while the records of the Roman Principate were used as a vehicle for the glorification of autocracy, whether the Hohenzollern autocracy in Prussia or the Napoleonic autocracy in France. It is, of course, unquestionable that History has both moral and political lessons to teach. I hope to indicate later on the nature of these lessons. Suffice it to say here that they are not always the lessons which one would wish to instil into the youthful mind, and that at best they are confused and inadequate. Just as natural theology provides insufficient satisfaction to man's religious sense, so does History when truthfully presented fail to supply unexceptionable confirmations of any of man's ethical or political creeds. The moralized History of Mrs. Markham and the Teutonized History of Kohlrausch were alike achieved only by a *suppressio veri* and a *suggestio falsi* that transmuted into tendential fiction the faithful record of things as they actually were. (2) Not only was the aim of early nineteenth-century history wrong; its method was unscientific. It was concerned with literary form rather than with critical research. It was careless of sources, neglectful of records, credulous of legends, unsceptical of frauds. It repeated, with no thought, save for grace of language, the idle tales of the plagiaristic succession of the chroniclers; it reiterated without inquiry such traditional figments as the stories of Alfred and the cakes, Henry and the lampreys, Gilbert Becket and the Saracen maid, Edward and the poisoned dagger, Bruce and the persevering spider, William Tell and the sundered apple. It was still in that stage of anecdotage in which it had been left by the mediæval annalists. (3) Finally, its scope was unduly restricted. On the one hand, it dealt with little beyond classical and national histories, in the narrowest sense of those terms, i.e. with Greek History only to the time of Alexander, with Roman History but to the accession of Augustus, with English History merely from the Norman Conquest, or with French History from the coming of the Capetians, or with German History from the coronation of Charlemagne. It ignored the spread of Hellenic civilization under the Macedonians; it left the story of the empire of the Cæsars untold; it passed over the romantic millennium of

Mediæval Christendom as unworthy of notice; it relegated even the modern expansion of Europe to a place of ignominious insignificance. On the other hand, even within the narrow limits to which it confined itself it took a singularly contracted view of its proper function. In the works of some writers of textbooks History seemed to be little more than a string of biographies of kings and war-lords. Even in the more pretentious writings of those who boasted their emancipation from the individualistic influence of Carlyle and his contemporaries, it expanded no farther than to the boundaries of "past politics".

During the second half of the nineteenth century, however, a marked and rapid change passed over both the study and the teaching of History. The *aim* became purified. Impartial search for truth more and more grew to be the purpose for which skilled investigators traversed the records of the past. No political or religious prejudices were allowed to disturb the judgment of such writers as Gardiner, or Bémont, or Ranke. "The Cambridge Modern History" might have been written by a machine. The spirit of the pioneers penetrated to the popularizers, and the textbooks which succeeded to those of the generation of Mrs. Markham and "Little Arthur" were, as a rule, though deadly dull, commendably free from both emotions and morals. Again, historic *method* changed. History was proclaimed to be a science. The resources of palæography and diplomatic, of archæology and ethnology, and of a host of other departments of exact knowledge, were brought to bear, in order that legends and lies might be eliminated and mere fact revealed. So too, in the proper manner of science, efforts were made—deductively by the school of Comte, inductively by the school of Buckle—to discover unifying generalities or laws, such as should make it possible for man to argue from the past to the future. Lastly, the *conception* of History was broadened. The compass of historic study was expanded so as to include peoples and periods all too long ignored. More important still, the study itself ceased to be restricted to the doings of monarchs and other notorious persons, or to transactions recorded in State papers. It was made—by such writers as J. R. Green, J. J. Jusserand, and Karl Lamprecht—to comprehend the whole many-sided life of the nations. It was shown—by such profound thinkers as Acton, Sabatier, and Döllinger—to be vitally concerned with the movements of ideas which are the ultimate causes of social and political phenomena. When these changes had taken place, and had made their influence felt in the realms of pedagogy, then at last was History fitted to take its place as one of the essential subjects of the modern school curriculum.

III

It is time now to ask what are the functions which History, when adequately conceived and properly taught, performs in education. If this essay stood alone, it might be necessary to preface the discussion by inquiring at some length what are the aims of education in general. But in a book of this kind such a preliminary inquiry at this point would be irrelevant. Suffice it to say briefly that, in the opinion of the writer, the aims of education at the present day are not simple and single, but complex and various. It was possible in earlier days, when education was the monopoly of the few, to say with some precision why learning was imparted. In Athens, for example, education was the preparation for statecraft: no less than one-eighth of Aristotle's treatise on "Politics" is devoted to it. In Rome it formed the first stage in the career of the lawyer and administrator: it gave the command of words which the orator needed; it inculcated the stern virtues proper to the ruler of subject peoples. During the Middle Ages education was restricted to the clergy and the religious orders: the *trivium* and the *quadrivium* provided the steps of a ladder whose summit was the science of things divine. Unity and simplicity ceased with the Renaissance. Education began to reach classes to which it had never before penetrated; it was increasingly applied to purposes which had hitherto been outside its scope; it lost its communal character and became subject to the individualism of the age. During the sixteenth, seventeenth, and eighteenth centuries it maintained its dominantly individualistic features;

that is to say, boys were trained in schools and colleges primarily in order that they might successfully pursue their own careers. No doubt, as Adam Smith remarked, such was the moral order and economic balance of the universe that in following their own ends they unconsciously and necessarily subserved the purposes of the community. Nevertheless the interests of society were secondary and subordinate to those of themselves. The French Revolution and the consequent advent of modern democracy made it imperative to restore education to the service of the body politic. Condorcet anticipated Robert Lowe in emphasizing the perils of an illiterate electorate and in advocating the culture of the new masters of the State. Accordingly it was public duty and civic necessity rather than individual interest that prompted the great scholastic schemes of Napoleon in France, of Humboldt in Germany, of Bell and Lancaster in England. Of course—such is the beneficent co-ordination of things—the individual himself profited from his increased capacity to perform his public functions. Nevertheless the safety, well-being, and progress of the body politic had re-established themselves as the primary ends of popular education.

At the present time, then, we may say that the aims of education in general can be classified under the two main heads: I. Individual, and II. Communal. Each of these is capable of subdivision. Education whose immediate object is the development and equipment of the individual may emphasize (1) technical training, or (2) general mental fortification, or (3) moral culture. The lowest aim which education can have is merely to prepare the individual to earn his own living. It is desirable, of course, that he should be able to earn it. Society is heavily burdened by being forced to maintain hordes of incapables. Nevertheless an education which is technical and nothing else is an education which makes more of meat and raiment than of life. A worthier education is one which aims at the development of general mental power; which so trains the faculties that, like well-tempered tools, they can be employed efficiently in many particular tasks; which prepares a man not only to do his job, but also to take an intelligent interest in the jobs of others and to share in the manifold activities of his age. Still, even this education is defective, if it is unaccompanied by a corresponding training and strengthening of the moral faculty. A man of criminal propensities becomes all the more formidable as he becomes technically expert and mentally alert. The Germans who made the great war were the finished products of immoral science. That education is unquestionably the highest which produces the noblest type of character.

Much the same may be said concerning that education which is public rather than private in its purpose; which looks to communal and not individual ends; which aims primarily at the training of the citizen, and only secondarily at the development of the man. There is a technical training which prepares a man to fulfil his public functions; there is a quickening of the mind which enables a man to take an intelligent interest in current affairs; there is a moral culture which inspires with the lofty spirit of social service.

So much concerning general principles. It is now possible to ask with better hope of receiving a precise answer, What are the functions which History performs in education?

IV

In the sphere of individual education History serves purposes of all three sorts—technical, mental, and moral.

(1) *Technical.*—History forms a part, and sometimes an important part, in the professional training of various bodies of men. The architect is an artisan and not an artist, if he knows nothing of the development of his craft, and if he is unacquainted with the historic conditions which produced such types as Greek, Roman, and Gothic, and made them representative of marked eras in civilization. The man of science misses the romance of his subject, if he is unaware of the stages of its growth, if he is ignorant of the careers of its pioneers, and if he has never read the story of the æonian conflict between science and superstition. The lawyer needs a precise and detailed knowledge of the evolution of the constitution and the formation of the machinery of government.

Still more does the man who proposes to make a career in politics require to acquaint himself closely with the whole course of his nation's story, and with the general outline of the movements of mankind at large. There are, indeed, few careers in which a knowledge of some sort of History is not a factor of efficiency.

(2) *Mental.*—More generally, History provides a training in certain faculties of the mind which are not directly reached by the processes of mathematics, the observations and inductions of physical science, or the gymnastics of language. "The educational function of history," says Principal W. M. Childs of Reading, "is definitely intellectual. It is to create in the mind of the young student the atmosphere needed for the perception of perspective and proportion; to invigorate the memory, the imagination, and the judgment; and to do none of these things at the cost of the other." *Memory*, *imagination*, and *judgment* are the three faculties which are here singled out for special mention. Modern psychology, it is true, looks with disfavour upon the whole conception of "faculties". But, even though the mind cannot thus be sectionalized, it none the less remains a fact that it operates in different ways and in divergent directions which exactly correspond to the antique facultative division.

Less stress nowadays is laid on *memory* than used to be the case a generation ago; and that for two reasons. First, because memory is seen to be essentially a matter of intelligent association of ideas and successful concentration of attention. Secondly, because books of reference are now so numerous and so readily accessible that there is no need for anyone to carry a load of miscellaneous information in his head. On the one hand, a person remembers without effort anything in which he is keenly interested, and everything which he naturally assimilates with knowledge already possessed. On the other hand, mere information is at a discount, and no one now rises to fame or eminence by means of his capacity to repeat the names of the kings of Israel and Judah, the major and minor prophets, the popes of Rome, the battles of the Wars of the Roses, or the wives of Henry VIII. The reaction against "the training of memory," indeed, has gone too far. It is necessary that every student of History should have a certain solid substratum of accurate and precisely dated fact early established in his mind, if he is to profit at all by the manifold acquisitions of his later years and build them into any sort of a symmetrical edifice of scholarship.

The *imagination* which the study of History trains is of the constructive rather than of the reproductive or creative order. Just as when one reads a novel one constructs the panorama in one's mind, so when one studies history does one ideally reconstruct the scenes of the great drama. Happy the writer or the teacher of History who has himself that imaginative power and that gift of vivid narrative which can enable him to quicken to eager life the minds of his readers or auditors! Too often both with teacher and with pupil the vision of even the cardinal episodes of the past is blurred and indistinct. No one should consider that he adequately understands any incident in History, unless and until he feels able—subject to his limitations as an artist—to sit down and draw a picture of it.

Above all, however, it is the *judgment* which is exercised by the study of History. History deals with the same sort of problems as confront a man in the actual world of affairs. They are different from the problems of mathematics, the mysteries of science, or the conundra of language. They are problems whose data are uncertain—partially recorded deeds, imperfectly reported speeches, doubtfully inferred volitions, enigmatically incalculable characters. The judgment has to be taught to remain long in suspense, to weigh conflicting possibilities, to make allowance for lacunæ in evidence, and to recognize that even in the end, when all has been done, absolute verity is unattainable. When all has been done, difference of opinion is still legitimate, still inevitable. Thus, if History teaches clearly that there is a sequence of cause and effect in human affairs as surely as in the world which is beyond the reach of the will of man, it teaches equally clearly that it is a sequence whose general laws are too complex (or too simple) for mortal mind to comprehend.

(3) *Moral.*—It has already been remarked that History

cannot properly be made the vehicle of specific ethical instruction. No doubt isolated incidents here and there can and may be used to point a wholesome moral. But History in its entirety and its integrity can no more readily be reduced to righteousness than it can be reduced to scientific law. We see not yet all things brought into conformity with the divine will, and History, no less than "nature red in tooth and claw," shrieks against the creed of the man who nevertheless believes in the ordering of the universe by a beneficent Providence. "Such comforting doctrine as that right is always might, or that persecution has never succeeded," —says a Report on the Teaching of History issued by the L.C.C. in 1911—"is wholly unhistorical; and the pages of History are crowded with instances of successful persecution, violence, and fraud." It is true that, just as Mr. Buckle tries to discover beneath the chaotic phenomena of human eccentricity the uniformities of unvarying law, so do some observers—as, for example, Bishop Stubbs and Mr. Froude in recent times—endeavour to discern in the pages of History some large moral lessons taught with universal regularity. But even they do not claim that these moral lessons are other than rude and elementary, and it is generally held that even these modest claims are not made good. No: instances of prosperous fraud, successful sin, and triumphant violence are too much intermingled with instances of virtue rewarded and crime punished to leave it possible for the historian who studies, records, or teaches the whole story to represent it as indicative of any unequivocal moral lesson. It is not for him to attempt to separate wheat from tares, or from selected grains of good seed to make ethical cakes for the young.

The moral value of History is of a wholly different sort. It is inherent in the subject and not extraneous to it. The student of History, whether he read of good men or of bad, of heroic virtues or abominable villainies, is transported into another and a larger world than that in which he habitually lives and moves and has his being. He journeys through great tracts of time and amid wide expanses of space. Thus, in the words of Principal John Caird, "History, like foreign travel, widens a man's horizon, and can scarce fail to broaden his views of life, to correct his prejudices, break down his narrowness of thought and feeling, and give his sympathies a wider range". It tends to impart elevation and dignity to his mind by bringing him into contact with great men and epoch-making events. It shows him his own insignificance, and helps him to see himself and his age in the smallness of their true perspective. It impresses him, as Lamprecht says, with "awe at the prodigious many-sidedness and endless significance of human activities". It reveals to him in countless ways the close connexion between character and destiny. Thus by ways indirect, and to minds unconscious that any lessons whatsoever are being instilled, does History perform its part in the ethical education of its students. They rise from their reading subtly transformed, like men who come from the presence of the mighty or from the spectacle of great deeds.

V

Such are some of the functions which History is calculated to perform in the training of the individual student for his life's career, for his place in the world, for his long destiny. When we turn to consider the communal purposes served by the study and teaching of History, we might very well discuss them under the same three heads—technical, mental, moral. But to do so is unnecessary, for those who have followed the arguments of the last two sections will readily apply them, with the required modifications, to the sphere of public affairs. It would, moreover, be wearisome; for so intimately are personal development and social progress bound up with one another that generally the same influences which conduce to the self-realization of the individual also tend towards the prosperity of the commonwealth. It will, I think, be more profitable to point out, by means of a cross-classification, that History performs three distinct services to the community of citizens, aiding them in three separate ways to fulfil their duties in the great society. Each of the three is to some extent technical, to a larger extent ethical, but primarily intellectual. First, it furnishes them with a school of political method; secondly, it provides for them a storehouse of political precedent; thirdly, it reveals to them the only firm bases of political progress.

(1) *History as a School of Political Method.*—The well-known formula of Professor Freeman that "history is past politics and politics present history" is true so far as it goes. It is false only if it be taken to imply that history is nothing more than politics. If it does not imply this, it is the truth, though not the whole truth. The subject-matter of history and of politics is the same in kind. That is to say, it consists of the deeds and words, the thoughts, emotions, and volitions of man in society. Human nature remains substantially unchanged through many ages; from generation to generation the same motives operate, the same principles find exponents and champions; the same conflicts are waged in conditions which vary more in appearance than in reality. Hence the historian has to deal with the same sorts of problems as those which confront the politician; just as the anatomist has to handle the same *corpus vile* as the surgeon. The difference lies merely in the accidents of age and vitality. The historian treats of old problems which have been worked out to some sort of solution—the data of which are fairly well ascertained, the processes of which have become more or less clearly visible, the results of which receive general acceptance. Above all, he treats of problems which have grown cool through lapse of time, which can be examined dispassionately, around which no longer gather too thickly the distorting vapours of prejudice. Even when he raises new questions or reopens old controversies, he is able, in proportion as the matters with which he deals are remote from the interests of the present, to maintain an impartial spirit, to preserve a judicial calm, to apply methods of pure science, to refrain from hasty and violent conclusions. The attitude which the philosophical historian adopts towards the problems of the past is precisely the attitude which it is desirable that the politician should adopt towards the problems of the present—an attitude of keen interest, of absorbed concentration indeed; yet an attitude of detachment and impartiality,

of calm equity and cautious suspension of judgment. Moreover, the kind of logic which the student of History applies to the determination of the doubtful matters of bygone times is exactly the kind of logic which the present-day man of affairs has to apply in his efforts to solve the conundra that confront him. Both historian and politician have to argue from uncertain data; have to draw provisional conclusions from probabilities; have to balance conflicting evidence and antagonistic opinions; have to infer motives from ambiguous words, and character from doubtful deeds. The historical seminar is the laboratory of political method.

(2) *History as a Storehouse of Political Precedent.*—But History is not merely a school of method, it is also a storehouse of precedent. It is the memory of mankind. Just as an individual learns wisdom by experience, and gains skill by reiterated practice, so should each generation profit by the successes and the failures of its predecessors, learning with increasing sureness both what to do in recurring circumstances and what to avoid. It is true, of course, that circumstances are never exactly alike on any two occasions in the life of either the individual or the community. History does not repeat itself in detail; nor is there repetition in the detail of the daily round of the most mechanically regular of the sons of men. Every incident that happens in every career whether of person or of people is unique. Nevertheless conditions essentially the same so constantly recur, both in the one and in the other, that precedent is an invaluable guide. There is this difference, however, between the individual and the community. The one has a continuous and conscious personality from birth to death; the other has not. Memory does its work automatically; History (the memory of mankind) requires deliberate cultivation and a constant renewal by means of diligent study on the part of each succeeding generation of men. It would be easy to multiply examples of "lessons of history" which have been effectively taught, particularly of such as have been indelibly impressed upon the consciousness of rulers by striking catastrophes. Four must suffice. Elective monarchy, for which, a priori, so much might be said, has been entirely discredited by

the experiences of the Holy Roman Empire and the kingdom of Poland; the limits of royal prerogative, once so extensive, have been permanently restricted by the exemplary treatment administered to Charles I of England and Louis XVI of France; the old colonial system, in the eighteenth century universal, has been everywhere abandoned as the result of the revolt of the American planters; the military system of "conscription" (as opposed to compulsory personal service), popularized by Napoleon, has all but vanished from the earth because of the spectacular defeats of conscript armies at Sadowa and Sedan by the national levies of Prussia and her allies. It would be still easier to enumerate cases in which precedents have been ignored and ancient errors have been repeated; but it is perhaps enough to note the painful regularity with which popular revolutions have passed through the successive stages of high idealism, reformative energy, and creative emancipation, to end in destructive anarchism, military tyranny, and reactionary death. The revolutionary is pre-eminently the man who is ignorant of History and is incapable of learning it. Dominated by abstract ideas, he re-utters as a new gospel the wild words of countless generations of predecessors, and repeats with an infatuated conviction of his originality the follies of an innumerable succession of false prophets. History, more than anything else, is needed to correct the tendency, so strong in well-meaning but unbalanced ideologues, to treat politics as a mere department of philosophy.

(3) *History as the Basis of Political Progress.*—This brings us to the third function which History performs in civic education. For the reiterated failure of revolutionaries to realize their ideals, and the appalling devastations which they have wrought in their misguided efforts to regenerate and re-create the earth from new beginnings and on novel principles, has been to no small extent due to their ignorance of the past, to their contempt for their ancestors, to their depreciation of the heritage of antiquity, and to their repudiation of all tradition. Progress, if it is to be permanent, must be made along the lines already indicated by the movements of humanity. The immense and mysterious momentum of the masses of

mankind cannot be arrested by the spells of the mightiest of magicians. The utmost that can be accomplished is slowly and gradually to change its direction and turn it towards a higher goal. It becomes increasingly evident that even so apparently novel and really revolutionary a force as the Christian religion succeeded in its task to no small extent because it incorporated and fulfilled all that was best in the thoughts and aspirations of antiquity, not only accomplishing the hope of the Jew, but also satisfying the desire of the Gentile. The Reformation of the sixteenth century failed so completely as it did in the greater part of Europe because it was not content to be a reformation, but aimed at being an entire reconstruction; it broke too completely with the past, and ignored too much the strength of the Catholic tradition. The seventeenth-century Puritan régime in this country collapsed from a similar cause. The visionaries of the Rump and the Barebone confraternity wished with a too great rapidity to erect the New Jerusalem in Old England. The nemesis of their disregard of the conservative prejudices of their fellow-countrymen was the Restoration. Concerning the French Revolution of the eighteenth century the same story has to be told. The leaders of the third estate, inflated with the theories of Rousseau, swept the old order entirely away. To keep it from returning they deluged France and the Continent with blood. Yet it was brought back with a vengeance by Napoleon, Louis XVIII, and Charles X.

The roots of the present lie deep in the past. "Only he who understands what has been," says Carlyle, "can know what should and will be." All the problems of modern politics, whether domestic or foreign, are old problems. No one can hope, except by the merest chance, to find a solution for them unless he is aware how they arose, along what lines they have developed, and by what means settlements have been sought in bygone days. History is the indispensable foundation of all stable political reconstruction. "The result of the study of the great world-movements of the past," says Bishop Stubbs, "should be to give an insight which cannot otherwise be attained into the conditions of society at the present. Thus the study of History should help the individual to understand the human world in which he lives." Professor H. Johnson of Columbia emphasizes this view when he says that "the most fundamental and the most comprehensive aim that can be formulated for historical instruction is to make the world intelligible". Carlyle expressed substantially the same view half a century ago when he remarked that "history is the letter of instructions which the old generations write and posthumously transmit to the new".

VI

Our study of the functions of History in education has led us some distance beyond the outskirts of the curriculum of the Secondary School. For History, although it can and should exercise its moral virtues and its intellectual stimulus upon the minds of the young, must not be expected to provide much useful technical training, or much directly valuable preparation for citizenship, except in the case of mature students. It is necessary, then, that we should retrace our steps, and consider more precisely in relation to each stage of the school career what services History can render; what should be the specific aims of the teacher; what means he should employ to attain his ends.

For the purpose of this discussion the school career of the average child may be divided into three parts, the lines of separation being drawn broadly somewhere about the ages of ten and fourteen. The education of a child up to the age of ten may be regarded as preparatory in type; the four critical years, ten to fourteen, are those in which the essentials of a general training are imparted, and the faculties as a whole are developed; after fourteen specialization begins and definite instruction for civic service becomes possible.

1. *Preparatory Stage*, *Ages* 5-10.—During these early years the study of History in the strict sense of the term is impossible. For the study of History proper implies the existence in the mind of the student of geographical and chronological ideas which are beyond the capacity of the very young. The World has been the theatre of

historic action, and until the pupil has acquired some definite knowledge of its surface and the divisions of its peoples, the place-names with which History is crowded mean nothing, and the maps which accompany textbooks are merely hieroglyphics. Further, History tells of movements in time, and so long as a thousand years remain to a child but as a watch in the night he is incapable of understanding its ordered progress. To the child every place outside the range of his vision is "a far country," and every date anterior to the reach of his memory is "once upon a time". It is the prime work of the teacher of History during this preparatory stage to awaken in the infant mind these incipient geographical and chronological senses. At the same time he may widen the mental horizon of the child by presenting to it pictures of scenes beyond the scope of its experience; he may arouse in the youthful breast "sympathy with hopes and fears it heeded not"; he may quicken the dormant imagination; he may excite interest in the people of bygone days and remote realms; he may even (since his teaching is prehistoric) venture to select material which shall have a direct moral or patriotic tendency. What is the material suitable for this preliminary period of instruction? It is stories of all kinds, but particularly those that have come down to us from the childhood of the race. Among these may be specially mentioned: (1) the Teutonic and Scandinavian sagas; (2) the Homeric legends; (3) the tales of Greek and Roman antiquity; (4) the stories of the Bible; (5) the heroic traditions recorded by the early chroniclers of England, Scotland, Wales, and Ireland; (6) the romantic narratives of the Elizabethan seamen and the founders of the British Empire; (7) the stories of European History. Those should be specially selected which centre round some notable man or some great deed; which have dramatic or epic unity; which display the finer traits of character. So far as is possible, a strict chronological order should be observed, even though no dates are so much as hinted at. The method of teaching should be primarily oral, and the teacher should cultivate the gift of quick and vivid narrative. It is a gift well worth the fostering; for there are few pleasures in a pedagogue's life more pure and unalloyed than that of seeing a class of eager listeners sitting, with eyes fixed upon his, spell-bound beneath his words. The teacher will gain much assistance, which he should use to the full, from a judicious use of pictures. A wall-picture representing some notable theme may often with advantage be made the topic of a lesson. Well illustrated historical story-books, of which there is no lack in the market, supply excellent subjects for discussions and compositions. Sometimes the aid of dialogue may be invoked to make an incident live again. Ballads and poems, particularly if set to music, serve a useful part in impressing incidents upon the receptive memory. Drawing and modelling can also be employed with advantage: flint implements, cave dwellings, primitive vessels, extinct animals, all lend themselves easily to representation in some form or other. The eye and the hand should be engaged wherever possible to supplement and support the ear and the imagination. So much for the preparatory, or prehistoric, stage of education.

2. *Stage of General Education, Ages* 10-14.—It is concerning the teaching of History proper during this second period of school life that the principal problems arise and the main controversies rage. What should be the direct aim of the teaching; should it be moral, mental, or practical; in particular, should patriotism be instilled? What sort of History should be taught; should it be biographical, political, constitutional, social, economic, or what? What should be the scope of the History taught; should it be limited to England or the United Kingdom or the British Empire, or should it embrace the world? What method of grading should be adopted; should outlines or selected periods be studied; if outlines, should they be studied on the concentric or the sectional principle; should History be treated intensively or extensively? What mode of procedure should be employed; should the plan of lessons be chronological or thematic; if chronological, should they advance from early times to the present day, or should the retrogressive order be preferred? What instruments should be used in the teaching of History; should a textbook be employed, or should original sources be

made the basis of the work done? What adjuncts can with advantage be brought to the assistance of the History teaching; to what extent can the subject be conveniently correlated with other subjects in the curriculum? Such are some of the questions which present themselves. A volume would be required to treat them all with fullness. Brief, and therefore somewhat dogmatic, answers are alone possible in an article such as this.

(*a*) *Aim.*—History has been accurately defined as "an hypothesis to account for the existence of facts as they are". All the data with which it deals are present data—extant documents, memorials, relics, books, traditions, and so on—even though they record events of the past. The historian's business is to explain them, and to make them—and the world through them—intelligible. Similarly the business of the history teacher, when he gets to his subject proper, is to interpret the world as it is; to account for existing political and social institutions; to help his pupil to understand the environment in which he finds himself. Thus he lays the foundation for that more definitely civic education which is the prime concern of the third period of the scholastic career. For the hope of the future lies in full comprehension of the present through a knowledge of how it has developed in the past. This leading idea, we shall see, to a large extent determines the question both of curriculum and of mode of presentation. It subordinates the individual uses of history to the communal uses. But it does not, of course, preclude the teacher from employing history, where he can do so without deflection from his main purpose, for subsidiary ends. He can and should use it to train the judgment; to impress the connexion between cause and effect in human affairs; to give practice in the use of books and documents; to develop the power of arranging and marshalling facts; to provide exercises in expression and literary style. This is the period of life when the mind easily and without resentment retains facts and dates which are impressed upon it. The opportunity, therefore, should not be lost of fixing in the pupils' memory so firm a framework of precise information—however light and slender in structure—as may serve as a nucleus, a classifying centre, a standard, a set of mental pigeon-holes, for all subsequent accumulations of knowledge. It is, however, quite inconsistent with the main aim of History, viz. the truthful interpretation of the present and the real revelation of the world as it is, to make selections with a view to moral edification, or to distribute emphasis with a view to the stimulation of patriotism. Love of virtue must be instilled by other means; love of country should spring spontaneously as the knowledge of the country's history increases, without any perversion of historic truth. The first and most commanding claim which history makes alike on student, writer, and teacher, is veracity. "The truth, the whole truth, and nothing but the truth" should be the motto of all who deal with the records of the past. A false interpretation of the world is worse than none at all. Insoluble mystery is preferable to a pseudo-explanation.

(*b*) *Sort of History.*—It is clear that the sort of history which was common in the textbooks of a generation ago is of no great service as a key to the conundrum of the present. Anecdotes, doubtfully authenticated, of kings and war-lords; stories of battles and lists of enactments and treaties—such things as these may amuse, may exercise the memory, but do not explain anything. The backbone of history is political history. So important is the State in the life of the community that no comprehension of present-day affairs is possible unless the main outlines of political history are clearly apprehended. So soon as these are grasped, then in turn social, economic, and constitutional history can be added in order to fill in the outlines and give a representation of the past as true to life as may be. The development of the modern State from the tribe, the clan, the city—that is what first has to be made clear. Until that is done, all other sorts of history—social, economic, constitutional—remain invertebrate and impotent, a confused mass of gelatinous generalities.

(*c*) *Scope.*—If political history is to be taught in the first instance, and to be supplemented by social, economic, and constitutional history, what should be its scope? Should it be national, imperial, or general? Since the aim in view is the interpretation of the present, it is plain that the history of civilization as a whole is the proper subject of instruction. Civilization as a whole, however, does not differ radically in different countries. Many—though not all—of its phases are inadequately represented in the History of any one modern national State. Hence the proper course to pursue would seem to be to make the History of the national State the central theme of the teaching, to treat other States as and when they come into relation with the national State, and to supplement that History from the unlimited stores of general History where any important phase of the development of civilization is not sufficiently depicted. For example, in this country English History would be the basis of instruction; it would be related to the History of Wales, Scotland, and Ireland in the most intimate manner; somewhat less fully it would be linked with the History of France, Spain, the Low Countries, and other lands beyond the seas; it would naturally expand into the History of the British Empire; it would be reinforced from general History, at appropriate places, in respect of such matters as the rise of Islam, the Crusades, the Renaissance, the Reformation, the Age of Reason, and the era of Revolution. Since the English national State is the sphere of the Englishman's highest political activities, and since it is through English politics that he is best able to exercise his influence upon the world and to render service to humanity at large, it is eminently desirable that the History which he studies should radiate from his native land. The same, *nomine mutato*, is true of the members of every other national State. History, like charity, should begin at home; but it ends only at the circumference of the orb of the world.

(*d*) *Method.*—How should History be treated in the classroom? Some years ago there was a great controversy between the advocates of the teaching of special periods and the advocates of the teaching of general outlines. It was really a conflict between those who regarded History as a means of mental exercise irrespective of its subject-matter and those who regarded it as of prime importance as an interpreter of the present. If History be employed merely for gymnastic purposes, no doubt a special and intensive study of some selected period is indicated; if, however, the interpretive end is kept in view, the long sweep of complete outlines must be resorted to. This controversy then is laid to rest. Outlines hold the field. True, this victory of outlines over selected periods involves some serious loss. But the loss can be largely reduced by the excellent expedient of passing lightly and rapidly over unimportant sections of the outlines, and dwelling with longer and more concentrated attention on those of vital interest. When History has had time to establish a tradition of teaching in schools, similar to that which prevails in the teaching of Latin, it will be found that an economical standardization enables the traversing of an extensive outline to be combined with the intensive study of selected segments of it. The study of the outlines should be spread over the whole of the four available years according to some such scheme as the following: *1st year*, from the earliest times to the end of the Middle Ages, with more intensive study of the Norman Conquest (first term), the Crusades (second term), and the Renaissance (third term); *2nd year*, the Tudor and Stuart periods, with special emphasis on the Reformation, the Expansion of England, and the Puritan Revolution; *3rd year*, the eighteenth and nineteenth centuries, with particular emphasis upon the struggle with France for the command of the sea, the loss of the American Colonies, and the building of the present British Empire, and the rise of democracy; *4th year*, social, economic, and constitutional history taken concurrently and studied with constant reference to original documents. The defect of this sectional system is that it implies a steady progress of the pupil from one form to another each year; and it is well known that such a steady progress cannot be easily assured. Much can be done by means of the formation of History "groups" parallel with the forms. In any case the sectional system with its worst drawbacks is better than the concentric system, in which the same course is covered with expanding fullness every year in every form. This system—now generally abandoned—stands condemned by reason of its deadly dullness, its presentation to young minds of material unsuited to them, its failure to allow time for any sort of impression to be made at any stage of its confusing whirl.

(*e*) *Mode of Procedure.*—Some teachers prefer a thematic treatment of History, rather than a strictly chronological one. That is to say, they take such topics as the growth of parliament, the relations between England and France, or the establishment of the British command of the sea, and work them out in turn through all their course. On the whole I urge, however, a strict respect for chronological sequence. The natural order in which to study History is the order in which events occurred. The thematic treatment should be reserved for revision. The same consideration condemns the retrogressive mode of procedure, once advocated by the last German Emperor. It assumed the present to be known, and it proposed to interpret the obscure past in the light of the familiar radiance of to-day. But it is precisely the existing world which needs explaining. If it did not, we should not trouble ourselves seriously to study History at all.

(*f*) *Materials of Instruction.*—A good textbook is essential. It should cover the whole of the outlines of English History, together with those correlated sections of other History to which I have alluded. It should contain a plentiful supply of maps; it should be well illustrated; it should contain appropriate historical poems; it should give references for more extended reading; it should provide topics for essays and questions for examination. To accompany the textbook there should be a collection of extracts from original sources. No pretence should be made that by means of such collections any sort of infantile research can be conducted. They should be employed as illustrations; as means of emphasizing important topics; as subject-matter for exercises and discussions. The pupil himself should be encouraged to draw supplementary maps; to construct time charts; to keep notebooks in which to collect and classify new information as it reaches him. Use should be made wherever possible of local associations with historic events; of museums of antiquities; of churches and other buildings venerable with age.

(*g*) *Correlation.*—It is an immense advantage if a school curriculum can be so arranged that the history can be brought into close co-ordination with literature, with geography, with drawing, with handicraft work, with music, and even with mathematics and science. A well-stocked reference library is, of course, essential to the attainment of the best results in the teaching of History. Few subjects offer opportunities of better training in the difficult art of reading and reference.

3. *Stage of Specialization: Ages* 14 *and upwards.*—When the age of fourteen is reached, specialization may be allowed gradually and tentatively to begin. That is to say, the pupil may be permitted, and indeed encouraged, to consider on the one hand what career in life he feels called upon to pursue, and on the other hand what are the duties which his citizenship will in any event entail. Further, having considered these important matters, and having come to some conclusion thereupon, he may be guided along the two parallel lines there indicated; he may in the first place be directed to the studies which will provide him with his proper technical equipment; he may in the second place be trained along the path of civic discipline and duty. We are, of course, here concerned only with such paths as run through the fields of History.

(1) *Technical Training.*—There are few careers which do not sooner or later bring those who follow them into one or other of the fields of History. It is possible to contend, indeed, that any Technical College or any University could be fully equipped by means of a staff consisting exclusively of Professors of History. Chemistry, Physics, Biology, Engineering—all sciences can be taught historically, and he who knows the process by which present knowledge has been attained in any one of them, and what that present knowledge is, is the best qualified expert in that subject. Without, however, pressing that point, I urge, what will be generally conceded, that every chemist should know something of the condition of his science under the Greeks and the Arabians, something of its development during the centuries that followed the Renaissance, and much of its advance under the great pioneers of the eighteenth and nineteenth centuries—Black, Scheele, Priestley, Cavendish, Lavoisier, Dalton, Berzelius, Liebig, Bunsen, Mendeléeff, and their later successors,

Similarly, every budding lawyer should study the history of Roman and English law, the growth of the Constitution, and the development of political ideas. So, too, the embryo theologian should be required to make himself conversant with the general history of religions, with the conditions of the world in which Christianity arose, with the story of the development of dogma and ecclesiastical institutions, and with the course of the movements of mankind during the era of salvation.

Examples might be multiplied until the whole range of modern activities should be covered. But it is needless to mention any more save one. There may be some pupils to whom History itself has become a fascination, and before whom the career of a student and teacher of History opens itself out with commanding attraction. Some pupils will contemplate specialization in History at school, the sitting for a scholarship at the University, and the taking of an honours degree in History. They will require the guidance of an expert teacher. Under his or her advice they will carefully consider the syllabuses of all the college entrance and scholarship examinations as set forth in Leaflet 3 of the Historical Association (revised and reissued annually about September), and will arrange their reading according to their choice. It is a matter much to be desired and earnestly to be urged upon College and University authorities that there were more unity and consistency in their scholarship requirements. It is lamentable that a student who fails to secure the scholarship at which he first aims should find his labour lost and should be compelled to start afresh on a new syllabus for his second attempt. If he fails in this, he is heroic indeed if he can brace himself up for a third trial. There should be a general agreement as to what it is desirable for an honours candidate to know when he comes up to the University, and scholarship regulations should be framed accordingly. Obviously only the broadest subjects should be indicated, and the widest possible latitude in preparation should be allowed.

(2) *Training for Citizenship.*—Those, however, who will specialize in History will necessarily be the few. The many, on the other hand, will become citizens and

will be called upon to fulfil the tasks that fall to all the loyal members of a democratic community. It is important then that in all Secondary and Continuation Schools, as well as in all Training Colleges and Universities, the History essential to citizenship should be taught. What is the History essential to citizenship? Assuming that the general foundation indicated in the last section of this essay has been laid, I think that it is: (1) the outlines of World History, that is to say, the broad lines of the History of the process of which our modern civilization has come into existence; (2) the History of the British Constitution, with all its local administrative machinery; (3) the History of the British Empire, with its movements towards differentiation on the one hand and federation on the other; (4) the History of Europe in the nineteenth century, wherein are to be found the antecedents of most of the problems of present-day international politics.

VII

Although my limits have allowed me to do no more than indicate the place which History claims to occupy in education, and to sketch the aims which the teacher should set before him and the means which he should employ to fulfil them, I hope that enough has been said to afford some stimulus and some guidance to at any rate such teachers as are at the commencement of their career. It is assumed that they have themselves made some special study of History as an instrument of education. For such is the importance of History, and such is the rapidity with which it is advancing as a science, that only a teacher who is able to concentrate his attention upon it can do justice to it. To such as make it the occupation of their lives it offers unsurpassed opportunities for both personal development and public service.

THE TEACHING OF CITIZENSHIP

By William Boyd, M.A., B.Sc., D.Phil.

1. Good Citizenship the Common Aim in all Education

IT is difficult to state concretely the educational aims of a modern nation. Up to a certain point the training the boy or girl of to-day requires as equipment for a particular trade or profession can be quite definitely set forth. There are certain things that must be acquired for efficient workmanship, regarding which every one is more or less agreed. But it is not so easy to define the requirements for the wider vocation of life that underlies all individual vocations. Usually we take refuge in some general statement of aim and ask for "general culture" or for "a preparation for complete living," without pressing for any precise specification of what is implied in "general culture" or "complete living". In practice such definiteness as is attained is due to the educational tradition. In times of rapid social change like those through which we are passing that, however, is not enough. Our traditions express the practical wisdom of the past, and to that extent they are bound to fail us when we come face to face with the new situations of the present and the future. In these circumstances how are we as educators to make our purposes plain enough to ourselves to meet the needs of our age?

The fact that the changes in the national life which create the difficulty are mainly economic and political perhaps indicates the most satisfactory way out of it. If for the time being we are content to think of education rather less comprehensively than when we speak of it as culture or as preparation for life, we may define the goal as the making of good citizens. However varied may be our deeper life as spiritual beings or our narrower life as practitioners of a special calling, we all find common interests on the meeting-ground of our social relations. Citizenship is, so to speak, the highest common factor of modern life. Whatever more than citizens we may be, we are all citizens and need a common training as such. In the long run, too, the life we must live as citizens brings in the other factors that are not common, and a complete education for citizenship must consequently make provision for them as much as for the specific duties of the citizen.

For this view of education there are abundant precedents. Quintilian sought to present the essential features of an orator's education and ended by depicting the good man required by his age. A long succession of educators during the Renaissance and in the centuries following, in planning an ideal training for princes and courtiers, reached a similar goal. Times have changed. The ultimate social authority is no longer in senate or in court, but in the polling booths where plain men choose those who are to rule for them, and it is now the education of the sovereign people that is of first concern. If the world is to be safe for democracy and democracy safe for the world, "we must educate our masters". For the same reason as educators of the past sought to make good rulers, the educators of the present must seek to make good citizens.

2. The Implications of Good Citizenship

It is not to be denied that there are dangers in defining the educational aim of our times in terms of citizenship. Such a definition seems to carry with it the suggestion that our duties to our civic fellows and especially to our State are the supreme consideration for us all. If that were really so, it would be the condemnation of the idea. After the most devastating war in the history of mankind, due in large measure to a nation that had allowed the interests of the State to override all others, civilized men are not likely to tolerate such a deification of the State.

We must be clear then about the implications of citizenship before we grant it this pride of place in our educational scheme. The question is ultimately one for political philosophy. In thinking of citizenship we often stress unduly our relations to the State as the highest effective social organization, including and dominating all lesser associations of men and women. Even then, however, we are not committed to the doctrine that there is no law above State law and that our allegiance to our State overbears all other loyalties. In point of fact, citizenship has a far wider connotation than this. It has reference to our membership of all social groups, from the family and the voluntary associations of neighbourly life at the one end up to the brotherhood of man at the other. Most of these social groups are actually subordinate to the State, and even those which are super-national are subject to it in so far as they organize themselves as particular institutions within it.

But this does not mean that our obligations to the State transcend all others. In art, literature, science, philosophy, and religion we have concerns that are wider than those of national patriotism. Through these great human interests we enter into fellowship with the citizens of other states, sometimes organized as in the case of the Church, more generally unorganized or but slightly organized as in the case of literature and science. Our duties as members of local states cannot override the broader human duties without doing violence to our nature as men. Citizenship, even when it has primary reference to our status as members of one particular state, must find place for every human relation.

From this it follows that good citizenship requires not merely loyalty to the various lesser and greater groups to which we belong in virtue of common interests, but to a right ordering of our several loyalties. By all means let us render unto Cæsar the things that are Cæsar's and unto God the things that are God's; but we must at the same time make sure that Cæsar and God have their proper place in our scheme of life.

3. THE NEED FOR CIVIC EDUCATION

The great importance of popular education for the making of good citizens has long been recognized. Germany made elementary education for the children of the people a fundamental part of her programme of national reconstruction after the disastrous defeat of Jena, and France followed her example shortly after. The idea was longer in entering into practical politics in Great Britain. But the extension of the franchise in 1867 led logically to the Education Acts of 1870 and 1872, and since then all educational legislation up to the great Act of 1918 has had behind it the conviction that only through education can the nation get men and women fit for the duties of the modern citizen.

In spite of this the need for direct civic instruction has been only very imperfectly realized. It has been commonly assumed that if the rising generation get a good general education they can be trusted to fit themselves to play their part as members of the community without any special training in citizenship. Certainly the assumption has been justified up to a point by the fact that in a time of national emergency such as we have recently experienced the great majority of the people in all countries responded with surprising readiness to the call of the State for devotion and service. Even so the question is bound to arise whether the response would not have been better and more intelligent if patriotic feeling had been more definitely guided and inspired in the plastic years of childhood and youth. Some countries indeed have already been forced to this conclusion. The United States with its heterogeneous population and France with its relatively unsettled political system have found it necessary to give greater heed to a deliberate civic education than we have done. It is possible that in the trying years that lie ahead we also shall be compelled to organize this element in general education.

It may be granted that it would be more in accordance with our traditions as a free people to leave the experience of social life—apart from special instruction—to provide the training of the social sentiments that underlie good citizenship. Whatever is done, we must rely greatly on this informal education. But the signs of the times suggest that, till the new order of things which is coming into being in consequence of the War has been firmly established, the prevailing social instability will make it desirable and even necessary to reinforce the undeliberate education of society by means of systematic instruction. It is better to recognize quite frankly that the upheaval produced by the War has led to an unhappy clashing of the ordinary loyalties of life. Self interest and class interest have risen up against national interest, and men and women of all ranks who were willing to die for their country in time of war are not showing themselves so ready to live for it in time of peace.

In any case, apart from the peculiar difficulties of an unprecedented period of transition, modern society is so very complex—and is becoming so much more complex—that there is a permanent need for the enlightenment of mind that can come only from an adequate knowledge of the various functions of society, and for the development of a higher degree of unselfishness for the right application of this knowledge. How far education can go in giving this training of mind and character we do not yet know. But it is certain that it can do much; and it is important that its possibilities should be carefully explored in the interest of the national future.

4. THE RAW MATERIALS OF CIVIC LIFE

The part played by the teacher in civic education must not be unduly magnified. He is not called on to *make* citizens. The boys and girls under his charge will grow into citizenship whatever he does or does not do. The great civilizing influences that are constantly at work shaping every human being from the hour of birth ensure that. All he can hope to do is to make them better citizens by a fore-thoughtful direction of such of these influences as come within his control.

In this respect the function of civic education is the same as that of moral education in general. The child soul is not a *tabula rasa* on which the adult can inscribe what characters he will. From the beginning there are active within it all those fundamental impulses of human nature which have made man a social being, already starting to take form in response to the social environment. The task of the teacher is to help to give them their most adequate form. This he can do well only if he knows what these impulses are.

Taking them in rough chronological order and ignoring their remoter expressions, they appear in four relationships: (*a*) The first set occurs in the relation of the child to the parents, and (as Freud and his followers have shown) varies according as the child is of the same sex as the parent or the opposite. The boy, for example, finds in the father the prototype of all later superiors and rulers: in the mother the prototype of later wifely devotion and love. (*b*) The second occurs in the relation of the child to his contemporaries once he breaks out into the wider world beyond the home. Here the dominant instinct is that of the herd—the gregarious instinct that makes him more or less like his fellows through sympathy, imitation, and suggestion, and that issues in new relations of superiority and subordination, according to his strength of body and mind. (*c*) The third occurs in the relation of the youth to the other sex, with its extraordinary blending of self-assertion and altruism and the ultimate sublimation of these into the most diverse social forms. (*d*) The fourth occurs in the relation of the parent to the child, beginning with the altruistic tender emotion of the mother and the similar but weaker emotion of the father, and developing into all kinds of social sympathies and understandings.

In addition to these primitive dispositions, there are others more specific that have grown out of them in the course of the ages of human development and that seem to be inherited like them. Such are the willingness of the individual to fight for and with his group under any circumstances, the instinctive acceptance and approval of certain ideal types of humanity (like the hero and the saint), and the reverence for the king or over-lord as group leader.

These are the raw materials of civic life.

5. The Aims of Civic Education

The educator, it is to be noted again, is not called on to deal with these fundamental tendencies in their elemental simplicity. As a result of the experiences of hundreds of generations, mankind has created an elaborate social tradition, embodied in distinctive institutions and practices through which the individual can find satisfaction for the needs of his nature in general conformity with the collective well-being. It is this tradition —which varies in its details with different civilizations, nations, and sectional groups—that is the real educator. The function of the teacher is to bring the pupil into effective contact with the tradition of his people at its best and to help him to make it a living reality for himself.

To do so to good purpose it is essential that the teacher should keep clearly before himself the main aims of the civic education. The first point he must note is that this education is not concerned with knowledge so much as with behaviour. The good citizen certainly requires to know many things about the agencies and functions of State, municipality, and public associations, which many citizens either do not know or know only vaguely; and provision must be made for imparting this knowledge to the citizen-to-be at some stage of his schooling. But knowledge, after all, is but one element in social conduct, and the possession of it does not in itself lead to right behaviour as a citizen. More fundamental is the attitude of mind that leads to an interest in the doings of the community as a matter of personal concern, and creates the will to serve one's fellows in the various relations of society. This is first in order of importance and to some extent also in order of time. Once the boy or girl comes to realize that the happiness of life depends largely on an active identification of himself or herself with the common life of family, neighbourhood, town, nation, empire, humanity, at those points at which he or she comes in contact with it, everything else follows. Out of it there grow, on the one hand, those habits of right behaviour which show themselves in law-abiding conduct and in the discharge of one's particular obligations as voter or as official, and those sentiments of group loyalty, more indefinite than habits, which make for worthy citizenship, not merely when some special duty has to be done but at all times. Out of it comes, on the other hand, the desire for the knowledge which is the pre-condition of intelligent social service.

6. The Limitations of the Learner

Before proceeding to discuss ways and means by which the citizen of the future is to be trained, it is necessary to point out that the limitations of childhood and youth which affect the teaching of all subjects are nowhere more evident than in those that call for some comprehension of social organization. Rousseau undoubtedly exaggerates the difficulty when he insists that it is useless for the teacher to attempt to make the boy appreciate his duties to his fellows till near the end of adolescence; but there is sufficient truth in the exaggeration to make it worth while being on guard against premature instruction in citizenship. We all learn best about what pertains to our business in life when we are actually engaged in it. The young mother is most keen about the upbringing of children when she has children of her own to bring up. The citizen in the same way takes more interest in public matters that have to be decided by vote when he himself has the responsibility of a vote. It is further to be remembered that, quite apart from the seeming remoteness of civic duties from the immediate experience of young people and the lack of motive for learning about them, there is a complexity about social phenomena, except in their very simplest forms, which makes it well-nigh impossible for the undeveloped mind to get beneath the surface to their real significance. If even well-educated adults find it hard to understand the factors that determine the prices of the articles they buy daily, or to comprehend the mechanism of trade or banking, it is not surprising that children should only glimpse the system of public order that is behind the policeman, or the far-extending methods of postal communication which the postman who brings the letters to their door represents.

It would be a mistake, however, to overstate the difficulties that stand in the way of the child or the youth understanding the salient facts of the social order. Even though the near approach of personal responsibilities in young manhood or womanhood makes the early twenties the ideal time for instruction in citizenship, there is a lesser interest and a lesser power of comprehension at an earlier age which provide sufficient basis for the beginnings of civic education. In spite of what Rousseau says to the contrary, the fact that the child will one day be man or woman does invest the concerns of adult life with a very considerable amount of interest. From the earliest years the child finds great satisfaction in mimicking grown-up ways—

> "As if his whole vocation
> Were endless imitation."

This child-play is no doubt very external, and yet not wholly so. To play at being grown-up is the first step towards entering the grown-up world.

But whatever the worth of this early interest there can be no question about the interest that comes near the close of childhood. Sometime about thirteen or fourteen, the normal boy or girl begins to sense the personal bearing of what is going on around him or her. About this age comes the birth of a real social consciousness. Ruskin gazing on the falls of Schaffhausen and finding his whole future determined by the vision of beauty, Tolstoy travelling through village after village and for the first time appreciating the fact that the peasants he saw had lives of their own to live, Shelley made conscious of the cruelties of society by the tyranny of his schoolfellows, illustrate in different ways the change in social outlook that comes for so many young people at this age. If this needs further confirmation, it is to be found in the experience of the classroom, where subjects like history and literature—the "humanities"—begin to count in serious earnest for the pupil sometime in the early teens. It is an anticipation of the adolescent changes that are to transform the more or less self-centred child into the man or the woman, finding his or her life in the common pursuits of civic fellowship. With it comes a new power to understand the various institutions of society and the beginnings of a desire to enter into them, which invests them with an interest and a meaning that make instruction in all that relates to them timely and comparatively easy. As adolescence advances, understanding steadily grows and interest deepens; and by eighteen or nineteen there is little in social economics and politics that is outwith the youth's mental and spiritual range.

7. INCIDENTAL CIVIC EDUCATION

The training for citizenship, as has been pointed out, has both moral and intellectual aspects. Primarily it is a training in right conduct in the various relationships into which every grown-up person enters as a member of the several social groups that make up the community. Secondarily it is a training in right thinking in so far as that is necessary for right conduct. It is obvious, therefore, that it presupposes the more general moral and intellectual training which comes from life and school. There is an organic connexion between any one sphere of education and every other. We have to train the character as a whole and the intellect as a whole before they can function perfectly in any particular case. In this sense the entire life of the child both outside and inside the school is behind his citizenship.

This must be kept in mind if we are not to err by expecting too much from specific civic instruction. It is not injunctions to serve king and country, or lessons about the constitution and agencies of government, that make good citizens. These are valuable—even, it may be, necessary—as supplements to the indirect formation of good social attitudes, but well-nigh futile without it. It is the temper of the home and the neighbourhood, the spirit of the press, the character of the local and central governing bodies, that create the atmosphere in which the civic virtues grow. The educator by deliberate effort can at best only make potentially bad citizens not as bad and potentially good citizens better. The tone of society at large sets limits to the success of his work.

No less marked are the limits on the intellectual side. The efficiency and the length of the average education plainly condition the intelligence of individual participation in social affairs. A primary school system that comes to a premature stop because the pupils have to go off to work before adolescence cannot possibly produce intelligent citizens; and as little can a secondary school system in which games are regarded more highly than studies.

Yet it must not be thought that the experiences which constitute the basis of formal training in citizenship are altogether beyond the control of the school because they are in the main informal. On the contrary, if the teachers are themselves good citizens and concerned about good citizenship, every part of school life and work may help to impart the civic bias and will do so whether they make that their conscious aim or not. In a school manned by the right kind of teachers, playground and classroom alike will in diverse ways provide admirable training for organized social life. Games, in the conduct of which the pupils themselves are left as far as possible to their own devices, are perhaps the most efficacious means for exercising and developing habits of communal arrangement and action. But even lessons which less directly affect character because they are regulated and controlled by the teacher have a very considerable part to play. Given the desire to link up lessons with life on the part of the teacher, any lesson may have a bearing on citizenship. It is only a dull teacher, for example, who would not turn aside, for a few minutes at least, from the Scripture lesson in which Paul's assertion of his rights as a Roman citizen occurs, to speak of British citizenship. Even in arithmetic, which is one of the subjects that present most difficulty in the correlation of school work with the wider human interests, there are occasional opportunities for emphasizing what Dr. Percy Nunn has happily described as the Arithmetic of Citizenship—the arithmetic of transactions commonly undertaken in local and national government—to the advantage both of the arithmetic and of the understanding of public affairs.

Naturally enough, the subjects which lend themselves most readily to this incidental instruction on civic themes are humanistic subjects like literature and history. The literatures of all peoples are rich in lessons of social wisdom, not ultimately less effective because they do not often lie on the surface but require the learner to enter into their spirit. The classics of Greece and Rome have always been recognized as great storehouses of human experience, with the advantage that comes from having reference to a simpler stage of social development than our own and the disadvantage of being available only for the pupils who carry their studies to a fairly advanced stage. But foreign literatures whether ancient or modern are obviously of much less consequence for civic instruction than the literature of the pupil's own people. Here in readily accessible form is the essence of the national spirit that is interfused in all law and custom, the very life-blood of good citizenship. Much of it, it is true, is beyond the comprehension of young people; but, even when that is passed over lightly, enough remains in story, poem, and song to influence the most ordinary boy or girl. One has only to remember the extraordinary influence exerted on the character of the Scottish people for six hundred years by the legends and verse that have the deeds of Bruce and Wallace for their theme to realize what a mighty power resides in literature. English literature, as it happens, is peculiarly rich in the lore that stirs the heart and ennobles the lives of men and women. Not even pedantic teaching can altogether dissipate its force, and skilful teaching can turn it to splendid account.

National history produces a similar effect in a rather different way. Didactic exposition, which often interferes with personal appreciation in literature, is more in place in history. The value of school history, indeed, lies in its manifold applications to the conditions of our own times, and it is an essential part of the teacher's work to make sure that the pupils apprehend the more obvious of these. We teach children about the past not so much because the past is interesting, but rather because it throws light on the present and (to a less degree) on the future. That does not mean that the teacher must always be stopping to suggest parallels between the events and conditions of bygone times and our own, or to adorn his tales with morals. Good history, like good literature, needs no bush of this kind. It can generally be left to give its own inspiration, either at the time or after many days. Nevertheless occasions will constantly arise when the most obvious method of teaching history will be to indicate the bearing of the facts under consideration on the life of to-day; and the teacher will find himself teaching citizenship without ceasing to teach history or consciously seeking to teach citizenship. Such a coincidence is all to the good. It does not follow that there is no need of systematic civic instruction. Historical facts, rightly taught, make excellent prolegomena to civics, but are still merely *pro*-legomena. History deals with many of the topics of civics, but always partially and incidentally. Even when it shows how our political institutions came into being and so makes it easier to understand their existing forms, it does not present them as an orderly whole, nor does it usually allow the inculcation of the right personal attitude to them. To do pedagogic justice either to history or to civics, the two are better dealt with apart, even if, as is generally preferable, the same person has to deal with them.

8. Civic Education at the Primary Stage

It is doubtful whether any good purpose is served by attempting to give formal instruction in civic matters before the age of twelve or thirteen. One has only to consider the character of children's games at this time of life to realize how narrow is their social outlook. Among English-speaking children, play from seven to twelve is individual and competitive, and shows an almost entire absence of the social qualities which make the team-games of the succeeding period so valuable a propædeutic to adult citizenship. The self-assertion, characteristic of the child's ordinary relations with his fellows, presents an almost insuperable obstacle to the educator who seeks to develop common spirit and action.

Such instruction as is given at the primary stage must consequently be indirect rather than direct. Though sense of community is weak and undeveloped, it is possible to encourage certain of the basic social virtues which are of real value in childhood and essential in adult life. Appreciation of fair play, for example, makes its appearance quite early. In the first instance, indeed, it takes the individualistic form of objection to not being treated fairly one's self; but from that to treating others fairly in order that they in turn may act with fairness is but a short step, which is easily taken when personal experience in games, etc., is judiciously supplemented by adult comment. The idea of fairness, once acquired in relation to the child's fellows, can be converted into the idea of justice in wider relations by the age of nine or ten. This presupposes a certain measure of ability to see things from other people's points of view; but that, though more difficult to produce, is not beyond the child's capacity. It can be most readily got by story history that appeals to the imagination. Even at seven or eight children can be led by proper teaching to realize that people of an earlier time or inhabitants of other lands had (or have) ways of life of their own, just as good in their eyes as ours to us. One child of the writer's acquaintance, for example, when told about the "false" gods of the Indian natives commented: "But they will think our God is a false god"; which was not a bad comment in spite of the fact that she thought they were wrong. Another child of ten, who had been led through the story of prehistoric life as narrated in the Dopp books, made the discovery that the primitive savages about whom the class had been learning were becoming "more like ourselves". This sense of community with different peoples can be engendered in children by a sympathetic teaching of history, especially when the facts get a concrete nucleus in some point of local interest—an old castle, monuments, or articles belonging to bygone peoples. The bridging of different conditions thus effected may be very imperfect, but it is essential to the later development of tolerance and understanding of others which is the pre-condition of community life.

Whether fairness, justice, tolerance, and the other simple social virtues should be inculcated by systematic teaching and at the primary stage is a question to which teachers give different answers according to their estimate of the value of formal moral instruction in childhood; and probably, if they are clear about the necessity of giving the matter proper attention, the difference is not material. With a teacher who is himself fair, just, and tolerant, incidental teaching should be effective enough—more effective in any case than systematic teaching by one who is lacking in these qualities. But what about the teaching of citizenship proper? Is that to be taught at all? and, if so, by what method?

If all that is aimed at is the development of the patriotic spirit, the case is simple enough. Pride in one's own town and country is a comparatively elementary sentiment to which children respond readily from the age of nine or ten or even earlier, and there is no difficulty in cultivating it in much the same fashion as the virtues already mentioned. But citizenship implies much more than patriotism. It is, so to speak, applied patriotism, patriotism organized in a scheme of rights and duties. The question that rises here is whether boys and girls, aged (say) ten to fourteen, are capable of taking an intelligent interest in the ordered life of the community and likely to profit by a formal study of its less complex features. The point at issue may be illustrated by reference to the detailed lessons on patriotism suggested for pupils of this age on the syllabus of the Moral Instruction League :—

> Standard V (11-12): (*a*) Pride in one's school and loyalty to it; (*b*) duty of local patriotism: how to serve one's town or village; (*c*) the value of local institutions.
>
> Standard VI (12-13): (*a*) Love of country: national emblems; (*b*) what our forefathers have earned for us—e.g. liberty, social and political institutions; (*c*) how each individual may serve his country and posterity; (*d*) the sovereign: his power, influence, and responsibilities.
>
> Standard VII (13-14): (*a*) The vote: its nature and responsibilities; (*b*) local government; (*c*) the nation and its government; (*d*) society as an organism: its development through the family, tribe, and nation; (*e*) universal brotherhood.

To the present writer (who has tried to teach citizenship on these lines to pupils of thirteen and fourteen) this course seems decidedly premature. There are parts of it which can be taught quite well, but taken as a whole it it too ambitious. It may have been worth trying to include instruction about the political constitution of Great Britain in the curriculum of children likely to leave school finally at thirteen or fourteen, in spite of the unreadiness of the pupils. But, now that school life has been extended and there is a prospect of compulsory continuation classes becoming universal, this consideration loses much of the weight it once had. In the case of a subject like citizenship in which personal interest counts for so much, there is great virtue in making a fresh beginning in adolescence, when the sense of individual responsibility is nascent and the consciousness of community with others is becoming a decisive factor in life. Whatever may be lost in the way of cumulative effect from not teaching the subject through the primary stage is more than compensated for by the appeal of new ideas and suggestions at the proper time of life.

But even if the systematic presentation of the facts of civic life before fourteen be regarded as premature, there is nothing to forbid the attempt to prepare systematically for citizenship. An important point to be noted here is that, though the *functions* of communal life are for the most part too complex for boys and girls to understand and the *agencies* through which communal needs are satisfied do not interest them much, representative *persons* appeal to them from the earliest years. The teacher can make use of this interest in persons to broaden the basis of social knowledge and experience on which the superstructure of citizenship is to be reared.

Instruction about representative persons cannot begin too soon. Among the heterogeneous information about the child's environment which is the appropiate material for education up to the age of seven, none is more welcome to him than lessons about the postman, the policeman, the dustman, the soldier, and all the other people who are singled out from their fellows by a distinctive dress or a distinctive work. Though he can understand but slightly the great social facts for which they stand, the vague knowledge he gets about them contains potentially all the political sciences.

When he grows older, the discursive acquaintance acquired in this way about social personages and events in the infant room and in the junior classes may with advantage be extended and made more definite by means of a weekly lesson about persons and places of current interest. Pictures cut from illustrated weeklies (like

"The Sphere") or from the daily press provide a wealth of material for conversational lessons on an ever-changing variety of topics which take him far beyond the bounds of his immediate surroundings without losing touch with reality as more formal lessons are so apt to do. The panorama of national and world events, with outstanding men and women (generals, kings, heroes, etc.) providing living centres of interest, opens up in concrete detail the great world of human activities and suggests new ideas and points of view. Even if the teacher cannot carry very far his explanation in regard to the work of the persons represented or in regard to the movements for which they stand, he can still explain enough to create interest and lead on to later explanations when his pupils are ready for them. Most of what takes place on the larger stage of national or international life has its homologue on the smaller stage of town or village life. The member of parliament is not so very different from the local councillor, and the functions of the king are similar to those of squire or mayor. By connecting up the less easily understood facts of the wider social world with those with which the children are more familiar, the teacher can give new meaning and value to both, and anticipate so far as their limited understanding permits the more formal learning about citizenship which is the proper task of adolescence.

9. Civic Education from 14 to 18

(*a*) *Some General Considerations.*—In regard to the teaching of citizenship from fourteen to eighteen, many questions arise on which there is as yet no general agreement. Should there be special lessons on the subject in all schools? In particular, should it be included specifically in the already crowded curriculum of the secondary schools? If it be decided that there should be definite instruction of the kind, how is time to be found for it? Is there any need to teach it continuously throughout the school years? Or is it sufficient to give a short course of lessons towards the close of the pupil's school career?

To most of these questions the answers have already been indicated. The claims of citizenship are so fundamental and so urgent that time *must* be found for the relative instruction ; and part of the content of instruction is so distinctive that justice cannot be done to the subject without special lessons in addition to the incidental treatment it gets as a matter of course in connexion with related subjects. Further, it is impossibe to secure the right attitude of mind to civic obligations in a brief course near the end of school life. Civic instruction, it must be repeated, is not so much a matter of knowledge as of character. The requisite knowledge could be given without difficulty in a comparatively short time. But the creation of the right mental and moral attitude is a task which cannot be hurried. Teaching, more or less constant, is an essential condition of success.

At the same time, there does not seem to be any need for a large demand on school time. In the first place, the major part of the specific training for citizenship can be easily accomplished in any type of school (including the continuation school) between fourteen and sixteen. If it can be continued beyond sixteen, so much the better. There is normally a ripening of mind about seventeen or eighteen that renders it possible to cultivate the breadth of view which is so important in good citizenship. But if, as is most probable, the requirements of intensive work in some one department of learning make it difficult to continue the study of civic facts, no great harm will be done. With right teaching the foundations of good citizenship should be well and truly laid by sixteen. The boy or girl who has been properly introduced to the subject should be able to continue his or her civic education after that. In the second place, it is not essential—perhaps not even desirable—that much time should be given to specific instruction in citizenship in the course of the week. The actual amount of knowledge to be acquired at the school stage is not great, and the sense of personal obligation in relation to the community is more likely to be developed by little teaching than by much. The main thing, as in all instruction that seeks primarily an ethical result, is to keep interest at a high level by regular but not too frequent lessons. Taking everything into account, a single period a week for citizenship should be ample.

(*b*) *School Life as Practical Training for Citizenship.*—If civic education were simply a matter of instruction, a single period a week would give a mere smattering and be of doubtful benefit. But if it be kept in mind that the whole of a well-ordered school life is itself a "citizenship"—as is recognised at a higher stage in the designation of the University student as "*civis*"—this criticism loses its force. It is not what is learnt in a particular class once a week that really matters, but the fact that a time, however brief, is set apart in which the unconscious learning of all the rest of the school life in respect to social relations can be brought to partial consciousness and made more complete.

The idea of a school citizenship is apt to be obscured by the fact that in the past the school has usually been organized as a benevolent despotism in which the chief virtue required from the subjects has been a ready submission to the will of their masters. Under such conditions the main emphasis is naturally laid on loyalty to the school and pride in its traditions and achievements, rather than on the personal responsibility and self-determination which modern citizenship connotes. The pupils are not conscious of themselves as "citizens" in any proper sense, nor do their teachers think of them so.

In saying this there is no intention to suggest that acquiescence in the established order of a community like the school is not a good thing from the point of view of social training. On the contrary, it is exceedingly valuable so far as it goes. It is only by identifying himself with his fellows in corporate groups that any person, man or boy, can enter into real civic fellowship. Personal progress as a social being is largely a matter of passing from smaller to larger groups and thence to still larger groups till one can share in the concerns of the widest groups of all—State and Church and humanity. It is a good thing, therefore, that the individual scholar should be caught up in the mass feeling of the school and moulded by its ways of thinking and acting. Despite his very restricted share in controlling the government under which he lives, he is in a quite real if somewhat narrow sense a "citizen," and is deeply influenced by his "citizenship". Pride in the athletic performances of his school and in the academic successes of past and present scholars is a potent spur to personal effort for the common weal. If with this can be combined the more humble but no less necessary desire to make things go well in the school from day to day, so much the better. The pupil who has come to acquiesce in a reasonable school discipline as in the interests of himself and his fellows, and tries (perhaps spasmodically) to give as little bother to his teachers and classmates as he can, is on the way to good citizenship. From this point of view, even the minutiæ of the school routine are important. Proper attention to the tidiness of the classroom, for example, is worth inculcating, provided always that it is not carried to excess. The boy or girl who has learned to avoid waste and "mess" at school because it is out of keeping with a good school life has acquired a habit of mind of lasting value for a citizen.

But though this kind of participation in school interests implies a relationship to the school community that has something of the civic nature in it, it is not an explicit citizenship and does not go far enough. The citizen of a democratic nation—such as the boy or girl will one day be—is called on for more than submission to external rule. He is certainly compelled to obey the laws and conform to the customs of his people. But these laws and customs are not imposed on him by superior force. He gets some chance, great or small according to the measure of his character and ability, to modify and change them and make them what he wants them. What can the school do to train for this more active citizenship? Can it do anything at all? Even on the most liberal view, it must be admitted, there are obvious limits to its possibilities. At the best the pupil has only a very vague conception of the meaning and purpose of education till he approaches the close of his school course and begins to realize the bearing of what he learns on his future career. To that extent the school must of necessity be benevolently despotic and determine for him all that he is too ignorant and inexperienced to determine for himself. The larger questions of curriculum—apart from the more personal questions raised by aptitude and inclination—will always be settled over the heads of the scholars either by the community at large or by parents and teachers. But even so there still remain abundant opportunities for the exercise of personal choice and interest in the economy of classroom and playing-field. It is here, if anywhere, that scope can be found for a modified self-government that will prepare young people for the fuller self-government of adult life.

There is no call at this point to enter at length into the various devices by which teachers (with this preparation in view) are now seeking to extend their pupils' chances of managing their own affairs in their own way. It will be sufficient to note the main lines along which a solution for the problem of pupil self-government is being sought. The most common method is to encourage the pupils to organize their extra-scholastic life by throwing on them the responsibility for the management of their athletic and social clubs. This course has the merit of giving them experience in settling questions of common concern in public meeting and working out details in committee, and avoids the difficulty presented by any attempt to share authority in school work proper. Some teachers, however, are not satisfied with this delimitation of spheres and wish to include school discipline as well. In most cases the prevailing methods of school management prevent any considerable experiment in this direction, and pupil government is limited to the playground and passages, and stops at the classroom door: in some few experimental schools, organized as "Cities" or "Republics," it comprehends all questions of discipline both inside and outside the classroom. Most logically complete are the systems evolved under the Montessori influence—mainly, however, for younger children—in which the children regulate their own work to the extent of settling whether they want to learn or not to learn particular subjects or lessons.

The whole matter is still at the stage of practical experiment, and no good purpose is served meantime in attempting to decide *ex cathedra* what can or cannot be done in these respects. It is worth while noting, however, the two divergent lines along which self-governing methods commonly proceed. The older form is that represented by the prefect system. In this system the teacher delegates certain of his powers to chosen pupils fitted by age and character for special responsibility. Similar in principle is the appointment of particular boys or girls from time to time for the performance of routine tasks of organization and discipline. Whatever form the system assumes, it is still in essence "despotism". The vesting of authority in certain pupils does not make the system as a whole any less despotic. It only widens slightly the area of freedom and intensifies the subordination of the great body of the pupils by bringing the external rule into more intimate touch with their ordinary life. The newer form of pupil government is commonly represented either by management through an elected council or by some kind of "School City" or "Republic". In the latter the pupils make and administer for themselves the laws under which they work. In the former the various pupil functionaries acting under the direction of the teachers are elected by their fellows for the posts and have definitely restricted powers. The difference between the old and the new types is only one of degree, since in no case can any system of the kind be carried on entirely without adult supervision and ultimate veto; but there is a wide gulf between them in respect of political principle. The difference is in the last resort the same as that between the dominance of the people by a privileged class and the government of the people by the people, which is the only possible alternative. For that reason it is desirable that within the limits imposed by boy and girl nature pupil government should be carried on by the active participation of all the pupils. The school can only be a satisfactory training ground for life in a democratic community by being as democratic as it can be in its own way.

It must be added that, whatever be done to exercise boys and girls in the practical art of managing their own affairs, more is needed than this to make them good members of the State at a later time. Practical training requires a theoretical supplement. It must be remembered that, though life in the narrower group is an essential part of the preparation for life in the wider, there is always the possibility that development may be arrested at the earlier stage. The herd loyalty which comes freely into play in school is a dangerous one. Just because it is one of the primitive elements in human nature, special care has always to be taken to see that it works upwards instead of downwards. If, for example, the homes from which the pupils of a school are drawn have the "caste" spirit of our aristocracy or the snobbish spirit of certain sections of our middle classes, the social life of the school may lead to a narrow clannishness which will make the pupils class-conscious men and women instead of broad-minded citizens. *Habits* of common social action, such as are engendered in a small community like a school, need to be sublimated into *ideas* of common social action if the school citizenship is to be an adequate preparation for adult duties and responsibilities.

(*c*) *The Background for Civic Instruction.*—If civic education were simply a matter of instruction in the facts of government, it would not be difficult to draw up a programme of study in those aspects of social economics and political science germane to citizenship, which would provide a course developing progressively over a number of years. But we have already agreed that, while a certain amount of knowledge is essential for the complete citizen and must be included in any organized scheme of civic training, more is required than mere knowledge for the creation of those dispositions to right action which it is the primary aim of the civics teacher to produce. One might even go further and say that, if too much stress is laid on the imparting of knowledge, the teacher may possibly defeat his own purpose. It is a familiar experience that with some pupils the study of literature before the desire for it has been aroused results in a permanent distaste. That phenomenon is quite as marked in fact-studies. Information served out to immature minds is apt to bore; and learning that bores either does not affect character or affects it for evil. Faced with this possibility the teacher of civics has two ways of escape. The first is to win interest by an indirect approach to civic topics which postpones formal treatment of them as long as possible. The second is to arrange his materials, when formal treatment begins, so that what has to be learned may be seen to have relation to the everyday experience of the pupils.

The former is generally the more effective plan. If Current Topics are discussed at every meeting of the civics class—either for the whole time or for (say) ten minutes at the beginning of the period when a systematic course of instruction is being given—the pupils will get a gradual introduction to all the more obvious facts of government, and acquire discursively a multitude of facts on which the teacher can draw for illustration of set lessons when the time for these arrives. Few weeks pass in which there is not something happening in the economic or political sphere that is of sufficient interest for class discussion; and over the year most of the fundamental operations of organized social life—local or general elections, law-making and administration, sessions of the law courts, new municipal or national projects, etc.—can be passed in review. At first, the teacher will require to select the topics most suitable for his purpose. The leading articles of the daily newspapers, or, still better, the wider surveys of weekly journals like the "Spectator" or the "New Statesman," will supply him with plenty of suggestions. Picking out one or two of the most important subjects he can talk about them, not trying to make his pupils take his point of view, but more concerned to let them see all round the questions at issue. These talks need not be lengthy—indeed, should not be lengthy—and the pupils ought not to be passive listeners. It should be a matter of course that they ask questions either as the talk goes on or at the end, and within limits (depending on the subject under discussion) they should be encouraged to express their own views. If the teacher is not a mere "soliloquist" and knows how to make his talk pass into an interchange of opinions, he will soon get a ready response; and even his more extended "lectures" will maintain interest because the minds of his hearers are working on what he is saying with a view to the subsequent questions and discussion.

The participation of the class in these conversations leads up to a variety of more personal activities on their part. Every one, for example, can help in the compilation of a collective Scrap Book, made up of pictorial representations of social events and prominent personages, and of cuttings of all kinds that seem to the pupils to bear on past discussions or to provide material for future use. More ephemeral, but educationally quite as effective, is the display of cuttings (preferably pictorial) on a CUTTINGS BOARD, changed frequently by the pupils under the teacher's direction. Official forms with a topical interest, which the teacher will usually be able to procure, may be included among the exhibits from time to time. The more complex social organization becomes, the more numerous grow such forms and the more important it is for the ordinary citizen to know how to deal with them.

A very valuable alternative to the teacher's talks are set LECTURES BY THE PUPILS on current themes chosen by themselves after the manner of the Little Men so engagingly described in Mr. Caldwell Cook's "Play Way". The fact that they get an occasional opportunity to speak on their own subjects not only gives zest to their reading of papers and magazines, but leads them to acquire the useful habit of "getting up" a subject with the help of encyclopædias and reference books. These lectures should on no account be read. The power of extempore speech, either with or without brief notes, can be readily acquired if practice is begun before the age of extreme self-consciousness.

More stimulating in some ways is DEBATE on carefully selected subjects. Active citizenship frequently requires a man or woman to take part in public discussion, and it is well that young people should have some experience of it. The subject of debate is immaterial so long as it involves a genuine difference of view in which they are really interested. The problems of their play and school life, and a certain number of more general social questions, satisfy this condition. In dealing with these they learn to express themselves with proper confidence and to observe the rules of discussion followed in a well-ordered meeting. Still more important is the discovery they make when debate is sincere, that there are other points of view than their own, held by people as intelligent and as honest as themselves. Other things being equal, the discussion of political and economic questions would seem to be most appropriate in a civics class. Debate brings out the many conflicting aspects of such problems and compels a balanced opinion in consideration of various possibilities. Unfortunately, not all topics of this kind are suitable for school use. It is generally better to eschew burning political and economic questions. The only place where these can be dealt with freely in school is in a Debating Society, for which the teacher has no direct responsibility. A society of this kind is for this and other reasons a valuable addition to the means of training for citizenship.

(*d*) *Instruction in the Facts of Citizenship.*—The teaching of citizenship by the methods just indicated is generally very effective so far as it goes. But it has the defects of all casual teaching. While creating a lively interest in civic life and opening up new country for mental exploration, it is very apt to leave the mind confused with the sheer variety of what is learned. For this reason more systematic instruction, which will make for the co-ordination of knowledge and for the purposeful direction of conduct, should be given during some part of each year. Assuming that citizenship is to be taught for at least three years, one term might be profitably spent in this way during each of the first two years, and a continuous course given throughout the third.

This is the most difficult part of civic education, and special effort is required to make it a success. The mistake most commonly made is to begin with an account of the system of local and national government as a whole. That is no doubt the logical starting-point, and would suit an educated man approaching the subject in a comprehensive way for the first time. But logical order is not boys' and girls' order. For them the right beginning is with the facts that they know best from actual everyday experience. Thence they can be conducted in due course to more remote facts and can learn to appreciate the various agencies by which the nation carries on its common life. Even here, however, there is a right and a wrong way. The wrong way is to describe the institutions of government and their ways of working as though the State were a complicated piece of machinery about which the pupils must learn, much as they learned the multiplication table. That kind of teaching may make the structure of social life quite intelligible, but it commonly fails to lay hold of heart and mind. The right way is to commence by making the pupils realize the great human needs that can only be satisfied by communal action, and to show how as a matter of fact they are more or less adequately satisfied by the particular institutions in which the pupils are themselves specially concerned.

The principles which have been stated may be best illustrated by suggesting in some detail the kind of instruction suitable for three successive years.

First Year (Pupils about fourteen).—The centre of interest at this stage is the village or town or city in which the pupils live. As a concrete example, a course of lessons given in a Glasgow school by the writer may be outlined. The general title of the lessons—put upon the blackboard every time—was: "What the City does for us". The subjects dealt with in successive weekly lessons were: the tramways, the lighting of the city, the making and upkeep of roads, the cleaning of the streets and the disposal of the sewage, the keeping of law and order, the care of the poor, public health, the schools, the Art Gallery and Museums. The postal service, though not a municipal function, was added to suggest that the city is not self-sufficient. For the most part emphasis was laid on how things are done (how, for instance, the tramways are propelled by electricity) rather than on administrative work. But the latter was not altogether neglected, and the course ended with an account of the different city councils and the manner of their election. A rural teacher, proceeding on similar lines, would have dealt with a somewhat different group of topics: so probably would a teacher in another city. It is the local interest that should dominate the teaching at this age.

Second Year (Pupils about fifteen).—Instruction should now begin to broaden out and become more objective. Still deferring detailed consideration of social organization, the teacher may find guidance for teaching at this stage in the idea of the various elements of community welfare and the social agencies necessary to secure them. The more important topics of the kind are these: (1) Protection of Life and Property; (2)

Health; (3) Education; (4) Recreation; (5) Correction; (6) Civic Beauty; (7) Transport; (8) Communication; (9) The Production and Distribution of Goods; (10) Charities. Anything like complete treatment of all these themes would obviously be impossible, even with the most liberal allowance of school time. All of them must be touched on, but to avoid superficiality it is advisable to single out for more careful treatment one or two which have some local or topical interest, or of which the teacher has special knowledge: e.g. town planning and beautifying, the postal system, railways. The aim is to show the means by which some definite need of man is met through social contrivance, and to do so in such a way that the pupils get some conception of the methods of studying any particular problem and acquire what Dr. Arnold called "moral thoughtfulness". This is best done by sample studies of particular topics.

THIRD YEAR (Pupils about sixteen).—The school training for citizenship cannot end without a careful survey of the machinery of government and the principles underlying its operation. The main topics to be included are: (1) *The General Conduct of Government*: (*a*) Democracy—government by representatives; (*b*) Methods of electing representatives; (*c*) The functions of local and national government; (*d*) The separation of legislative, executive, and judicial powers. (2) *The Machinery of Government*: (*a*) The Constitution of the State; (*b*) The constitution of local councils. (Reference to the different bodies and officials in whom are vested legislative, executive, and judicial powers; and to the Municipal and Civil Service.) (3) *The Financing of Government*: (*a*) Sources of revenue; (*b*) Methods of taxation (rates and taxes); (*c*) The borrowing of money for public purposes: the national debt. (4) *The Relation of Voluntary Organizations to National and Local Government.* The method of study in this part of the course differs from that hitherto pursued. Up to this point it has been sought to give the pupils the right attitude of mind to social facts, and the imparting of information has been of quite secondary concern. But in this case there is a certain minimum of knowledge which the pupil must make his own if he is to be able to discharge the duties of his station properly when he grows up. That means that this phase of civic study must be gone over with sufficient thoroughness to ensure that the leading facts will all be understood and remembered. One lesson a week (based on a textbook of citizenship) all through the third year is not too much—and it need not be too little—to accomplish this.

There is no necessity to discuss in detail the subjects which might be taken up in a course of citizenship continued beyond sixteen. The studies most suitable for older pupils call for specialization and their content is best determined by the teacher's bent.

10. Civic Education for Adults

One of the most hopeful signs of the times is the considerable number of men and women in all the large centres of population who are anxious to study economics and politics in order to make themselves better citizens.

The problem for the teacher in this case is different in some important respects from that with which he has to deal in school. It is at once easier and more difficult to teach civics to adults than to boys and girls. It is a great advantage that his pupils all want to learn and have come for instruction of their own free will. He does not require to create interest: it is there awaiting him. He can count on a fairly extended acquaintance with the kind of facts about which he is going to teach: most of his pupils either are already citizens or are soon to be. Over against this must be set the drawback—if it is a drawback—that there is a bigger demand for teaching capacity, because older pupils know better what they want to learn and need to be satisfied by getting what they want if they are to go on learning. The kind of teaching that will do for school children who must learn whether they wish or not will not do for people who can stop attending a class that does not please them.

There are two distinct groups among adult students of citizenship. The first are those who are able and willing to apply themselves seriously to study over a considerable period of time. For them the courses provided by the Workers' Educational Association, the University Schools of Social Study, and similar institutions generally give a satisfactory introduction to the main branches of economics and political science. These courses are good so far as they go, especially for those students who aim at fitting themselves to take a part in labour politics or to undertake welfare work and similar forms of social service. But considered as a preparation for intelligent citizenship they are apt to be too narrow. The knowledge of economics which they commonly put in the forefront of their programmes, while exceedingly valuable as an element in civic education, is as one-sided as anatomy without physiology, if made the predominant pursuit. A scientific study of social facts needs to be rounded off by a philosophical. This implies the making of a definite attempt to find some answer to the fundamental questions about man and the State—and ultimately about man and the universe—which always arise if social study is carried far enough. It is suggested, therefore, that every course for adult students ought to include social philosophy as an essential subject. Whether this study should take as its starting-point some master work like Plato's "Republic," or the political writings of modern thinkers like Mill or T. H. Green, or should deal directly with the philosophy of social relations in the fashion so admirably illustrated in Sir Henry Jones's "Principles of Citizenship," is not a matter of any special consequence. The main thing is that the student of civics should somehow or other have his thoughts directed to the basic considerations that underlie all the social sciences.

The second and more numerous group of adult students consists of those who by reason of defects of previous education or lack of leisure cannot undertake a systematic course of study, and yet wish to get some instruction in regard to civic affairs. For such students formal courses on "The Life and Duties of the Citizen," which enter into considerable detail about the machinery of government, are worse than useless. Adults may need this kind of knowledge, but as a rule they do not want it—at least in this form. A long experience of teaching civics to adult classes has convinced the writer that the way to success is to take a single group of social problems—preferably of current interest—and to work out from these to the wider economic and political issues. Since 1914 (to give an example) he has lectured in successive years on World Politics, the Conditions of Permanent Peace, Urgent National Problems, World Politics after Three Years of War, the Rebuilding of the State, and High Prices. There is a great variety of suitable subjects. The teacher who keeps in touch with the great questions of the day will find no difficulty in getting topics that are of interest both to himself and to his class. By way of further illustration, it may be added that the class referred to above had previously had courses on such widely different subjects as: The Nineteenth Century, the Poor Law Reports, Social Psychology, Industrial Unrest, Social Evolution, Utopias Ancient and Modern, Plato's "Republic"; and that of all these that on Plato's "Republic" was the one most highly appreciated.

With regard to the method of instruction, there is perfect unanimity on the part of all who have taught adults of either group. The only right method—the method that succeeds every time with a moderately competent teacher—is a combination of lecture and discussion. Suppose the class lasts an hour and a half. (An hour is too short and two hours generally too long.) The teacher occupies about half the time with his lecture, which to be effective must be lucid, interesting, and thought-provoking. Lucidity is got by keeping the sequence of the argument always in evidence by a definite plan of thought, capable of being outlined in blackboard headings as the lecture goes on; interest, by a constant use of concrete illustrations from facts tolerably familiar to every one; personal thought, by a tactful provocativeness that puts the various sections of the class on the defensive in regard to their own convictions. After the lecture, and every bit as important as the lecture, is the interchange of views between teacher and class which occupies the second half of the time. An invitation to ask questions gives every member of the class an opportunity to take part, because even those who find difficulty in expressing their opinions can ask questions. Out of the questions inevitably rises discussion, directed by the teacher through *brief* replies and comments. This discussion will often be discursive. There is no objection to that so long as the teacher is careful to bring it back from time to time into relation with some aspect of the subject. It will sometimes tail out. The teacher has then to suggest unconsidered points in the lecture and so keep thought on the move. Between lecture and discussion, both students and teacher find their ideas on the particular topic before the class growing wider and saner. This has only to go on for a whole session, and the result will be not merely a good understanding of one group of problems, but the formation of a habit of mind that makes for an easier understanding of all social problems and leads to the development of the spirit of good citizenship.

11. Dangers in Civic Instruction

There is now general agreement about the necessity for giving instruction regarding the duties of citizenship. But the recognition of the value of this instruction should not be allowed to obscure the fact that it is attended by peculiar difficulties and dangers which have always to be kept in view by the teacher.

Objection is sometimes taken to the teaching of civics on the ground that it leads to social unrest by filling little minds with ideas too big for them. For the most part this criticism proceeds from timorous persons who are satisfied with things as they are, and fear that any discussion of social problems will stir up discontent with the established order. When a man like Lord Bryce, however, advises caution in imparting information about the great questions of politics except when enough can be given to make the recipients realize how little they really know, it is impossible to dismiss the objection as merely an expression of conservative timidity. There is undoubtedly some risk that in this sphere a little knowledge may be a dangerous thing. But, even admitting the risk, the conclusion is surely not against the teaching of civics but in favour of more thorough teaching. The problems that arise in the citizenship class are the common topics of conversation in all ranks of society.

The daily press is full of them. If sometimes they are dealt with without serious regard to the consequences of wrong opinion by incompetent speakers or writers, that is only a further argument for proper instruction in regard to them under satisfactory conditions by teachers able to minimize whatever dangers there are.

A much graver objection is that many of the most vital topics that have to be dealt with in a civics course are matters of class or party controversy on which it is impossible for any teacher to preserve an attitude of perfect detachment. The practical dilemma that seems to present itself to the teacher is this. If he is not to avoid such topics altogether, he must either present them as best he can in a form free from partizanship or must give a personal bias to his teaching. In the one case, his instruction is likely to be flat, stale, and unprofitable; in the other, he may do violence to some section of his class and embroil himself with those members of the outside community who do not agree with his opinions. Both of the alternatives are obviously unsatisfactory. In actual fact, the difficulty though not groundless is less serious than it looks. If the teacher is a fair-minded person with a proper respect for other people's opinions and realizes that his business is to help his pupils to think for themselves rather than make them think as he does, he can generally find a safe track between Scylla and Charybdis. In teaching school children, he will adopt as a matter of course the "non-party political" attitude (to use the clumsy but not inapt phrase of the Workers' Educational Association) and keep his own economic and political views well in the background. It is comparatively easy to do so at this stage, because the greater part of what is worth teaching boys and girls about citizenship lies outside the region of party, and no great harm is done by passing lightly over the issues that divide grown-up opinion. Even if he has to touch on controversial themes, he can with moral advantage to himself and to his pupils dwell mainly on what seems to him admirable in the various parties and omit reference to their defects. It is no bad lesson for young people to learn that there is much that is fine in all parties and classes, however much one may disagree with them. In teaching adults, however, the position is quite different. Here the strict neutrality which is essential in dealing with immature pupils is neither possible nor desirable. Stress should certainly be laid on the things that unite rather than on those that divide. But there is not the same need to minimize diversities of opinion. Often, indeed, the ignoring of opposing factions would defeat the purposes of instruction, since grown-up people are constantly called on to take sides after consideration of different views. For this reason the teacher can generally state his own position with perfect propriety in so far as it helps to make his teaching effective: on some questions, in point of fact, it is only right that he should do so frankly in order to give his class an opportunity of making allowance for his bias. But there should, of course, be no attempt on his part at propagandist advocacy of particular causes. He is a teacher, not a preacher. When it is necessary for him to give his views on any question, he should speak temperately and make every effort to do justice to the views of those from whom he differs. The thought that ought always to be present with him and with the class is the duty that lies on every individual to consider carefully all aspects of a question before coming to a definite personal finding. The fact that full and free discussion follows the teacher's exposition affords in most cases sufficient guarantee that his *ex cathedra* utterances will not carry more weight than they are entitled to on their merits. In this consists the great educational virtue of discussion in the teaching of subjects in which differences of view are a matter of course.

It is always possible, indeed, that a teacher of civics may abuse his position. So for that matter may any professional man. That is but a fresh reason for making sure that this responsible work is entrusted to well-educated men who, like the ideal historian of whom Mr. Birrell speaks, are "gentlemen and possess a moral breadth of temperament". Apart from any question of misuse of influence, it is teachers such as these who are required to teach the civic virtues. Good citizenship is not an affair of doctrine, but of life. Only teachers who are themselves good citizens, and worthy of their high calling, can make others good citizens.

THE TEACHING OF RELIGION AND MORALS

By the Right Rev. William Temple, M.A., D.Litt.

IT is inevitable that in a discussion of educational life a special section should be allotted to Religion and Morals; but, though it is inevitable, it is calamitous. Religion and morals cannot be separated from one another; so much is admitted. But it is equally true that neither of them can rightly be separated from the intellectual and social aspects of school life, or in other words from the classroom, the boarding-house, and the playing-field. When Socrates asked Polemarchus to define the sphere and use of Justice, he reduced that representative of all well brought up young men to great difficulties, and finally secured his admission that Justice is useful only in connexion with what is useless, and is itself a department of the art of stealing. A similar result is to be expected whenever religion and morals are treated as a separate subject. Religion tends to be confined to Sunday and early school on Monday; the only moral question prominent in the inquirer's mind is that of chastity. But unless the worship offered on Sunday, whether at school or elsewhere, is at once the focus and the nourishment of a purpose that seeks (at least) to control all activities, it seems to belong to the category of the useless; and the fact that moral zeal becomes concentrated on the question of chastity creates an unwholesome atmosphere which is a chief incitement to bad habits.

If this is true, an essay on religion and morals is bound to range over a very wide field and to overlap the frontiers of other subjects. In each department I propose to say something about the centre or focus of the problem, then to discuss in what cannot be more than an illustrative way the wider ramifications of the subject, returning again to its centre with any illumination that has been gained. Similarly I propose to begin with religion, to proceed to morals, and then return to a fuller conception of religion.

I

(*a*) The centre of a school's religious life is to be found, of course, in the school chapel, where there is one. The fact that it is the school chapel is important. It is not merely a place of worship conveniently near the school to which individuals may go if they please. It is the school chapel in which the school, corporately and as a society, offers its worship. Englishmen are very individualistic in religion, and a boy of fourteen to eighteen is usually more individualistic in his conscious thoughts, though not in his instincts and emotions, than at any other stage of life. Consequently the whole conception of corporate worship is difficult to our countrymen, and those who speak for boys just leaving school pay no heed to it at all. But, though the thoughts of boys at a school tend to be highly individualistic, a school is very far from being a mere assortment of individuals. It has a real collective life; it is a collective person. Moreover, the chief educational influence which it exerts upon the boys who compose it is through their sharing in that collective life and becoming members of that collective person. The educational influence of the school will therefore depend upon the character of this collective life, which must include worship if it is to be religious. To this end it is certainly desirable to maintain services which the whole school attends. So far as possible this should be taken as a matter of course. In an age of criticism this cannot be universal, and for the sake of the collective worship (which is not simply the same as all the individuals worshipping together, but is the act of the society as such) attendance must be compulsory; but the less it is thought of as compulsory, the better.

It is not suggested that those who attend will consciously grasp this notion of corporate worship; but it can be a reality without anyone attending to it; and the experience of it, even though unconscious, is a preparation for conscious participation in the corporate worship of the Church.

That is only one aspect of the matter, however, and there can be little doubt that at most schools there is far too much "compulsory chapel". I have no wish to suggest an ideal Sunday time-table, but I am inclined to suggest the following :—

8.0	a.m.	Holy Communion.
10.15	„	School.
11.0	„	Shortened Matins: no sermon.
6.30	p.m.	Shortened Evensong: sermon.
8.0	„	Preparation.

In such a case I would propose that attendance at Matins should be optional for those who had attended the early celebration. Once a month, perhaps, a Choral Eucharist should take the place of Matins.

It is a calamity that it should be in any other service than the Holy Communion that the corporate worship of the school, which all are required to attend, is offered. But in the present state of English religious life it would be perilous to make attendance at Holy Communion compulsory. The danger of profane attendance would be too great. A school is not the only influence moulding the religious outlook of its members. They come to it partly formed, and the home influence continues to be the strongest.

Matins and Evensong must obviously be shortened for school purposes. Exhortations should be omitted except on rare occasions. Not more than twenty verses of the Psalter should be sung at any one service. No lesson should be more than thirty verses in length, and each as far as possible should be confined to some one episode or oracle. As a general rule, lessons from the Old Testament should be prefaced by an introduction stating the circumstances, explaining difficulties, and (above all) pointing out where the moral standard accepted by the writer falls short of that set up by Christ. Special prayers should be freely used, each introduced by a "Bidding," so that the subject of petition or intercession may be clearly known. The sermon, unless preached by a visitor with real power of holding the attention, should not exceed fifteen minutes in length.

Advice to preachers at Public Schools consists, like most advice, of a series of Don'ts: the chief of these is, Don't mention Games. For the regular school preacher the most important points to bear in mind would seem to be two. The small boys will not remember what he says anyhow; his work for them must be the cumulative formation of an atmosphere. The big boys will learn nothing except how to scoff if the sermons have any suggestion of the nursery about them. On the whole it seems best to preach to the Fifth and Sixth Forms, with a bias in favour of the latter. It must also be remembered that boys can understand and appreciate a great deal more than they can reproduce. Their vocabulary, influenced as it is by the absurd self-consciousness which prohibits the use of such words as are alone appropriate, fails completely before the higher spheres of experience. But that does not mean that the experience is lacking. The very reserve and apparent callousness of the Public School boy is due to the fact that new and startling experiences are crowding into his soul, about which he is very shy and of which he is more than a little afraid. There will be a real response in the chapel atmosphere, and in many individual hearts, to a preacher who can with a touch at once sure and delicate handle the mysteries of the soul's communion with God. Almost every boy is a natural mystic. But he cannot express these things himself, and it would be bad for him to try. The preacher can take his part in building up the innermost spiritual life of his hearers; but he must be very gentle, and totally free from any appearance of handling lightly or familiarly what is holy; he must recover the awe with which as a boy he first stood dumbly before those mysteries himself; and he must not expect any spoken or even conscious recognition in his hearers of what he has done for them.

It is partly the inarticulateness of boys with regard to all the deepest experiences which leads some preachers to speak little of God and His self-manifestation in Jesus Christ, and to dwell mainly on ethical principles which, however excellent, supply no inspiration. The loss of opportunity is tragic.

Apart altogether from the regular services, there should always be—as there almost always are—extra services for instructions, meditations, preparation for Holy Communion, and so forth; attendance at these should, of course, be voluntary. They have about them a different atmosphere from the "official" services, and a more intimate devotional tone is possible and appropriate. At such services there should be intercession for the nation, the school, old boys, and so forth. This would help to discourage the notion that religion is a self-centred thing, aiming primarily at individual salvation.

I have said nothing as yet about Confirmation and I shall say very little, because I am sure that this service and the preparation for it should, if at all possible, take place away from school. If it takes place at school, it cannot be entirely freed from the atmosphere of school routine. And if arrangements cannot be made at home, then I would urge that boys should be confirmed at their Preparatory School during their last term there. It is always desirable to associate such a religious initiation with the entry into a new stage of development, and the bestowal of divine gifts with new needs for them; and it is certainly desirable that a boy, if he comes from a religious home and has the normal religious instincts, should have begun to form the habit of regular Communion before he goes to a Public School. But the school Confirmation will no doubt continue for a long time to come, and I would suggest that the one way to deliver it from the associations of school routine is that the head master should make his interview with the candidates individually as informal, as intimate, and as definitely religious as possible. It takes time; my own experience was that half an hour with each candidate was the minimum that was of any real use. The candidates are junior boys, and for a junior boy to have an informal conversation with the head master lasting for half an hour or more on such subjects as how to make prayer more real, what to expect at Holy Communion, or such simply religious questions, is sufficiently unlike what happens every day, and sufficiently near to the boy's own needs and wonderings, to have some chance of making a real impression.

Indeed, such a conversation is of so much value to both parties that provision should be made for it, even if the Confirmation is not held at the school. Perhaps as good an arrangement as is generally possible would be that the head master should interview all boys in this way during their second term, when they have learnt some of the problems of school life, and that the preparation and Confirmation should take place in the ensuing holidays.

Hitherto I have assumed the existence of a school chapel; but the vast majority of schools are without them. In that case everything possible must be done to impart devotional reality to the prayers in the big school, or wherever else they may be held. Boarders would probably go to the parish church, but unless the Vicar is prepared to alter his services to suit their needs —and thereby probably meet also the needs of his other parishioners—special services should be held. The ordinary parochial service is not at all ideal for schoolboys. As far as possible the church should be used as if it were a school chapel. Where the boys attend church with their families, the school loses a great opportunity; but, with the opportunity, the responsibility also is removed.

In the suggested time-table given above one item is "school". It is vitally important that the Sunday lesson should be unprepared, and that all disciplinary elements should be removed from it. Its object should be to make some part of faith or practice intelligible. It may be used for an exposition of difficult passages occurring in the services of the day; or in discussion of the application of Christian principles to social life; or in some account of the missionary activities of the Church and their place in the general problem created by the impact of European civilization upon Asia or Africa; or in the exposition of Christian theology, whether by the study of an Apostolic writer, or by discussion of particular points of doctrine, or by an attempt to show that the various clauses in the creed are indeed "Articles" of Belief into which the whole body of Christian doctrine is articulated. The one thing that should at all costs be avoided is the Greek Testament, except, in the highest forms, as a reference book.

It is necessary to secure that the boys acquire a real knowledge of the Bible story and of Christian doctrine. This may be done on Sunday evening in preparation for Monday's early school. But it is also necessary to show that Christianity has an intelligible, and highly scientific, theology, and is itself, both theoretically and practically, of fascinating interest; and this far more difficult task should be undertaken at the Sunday lesson.

(*b*) All of this might be done and much more which I have not the wisdom to suggest, without the religion of the school coming to life: for religion which is confined to a special department languishes into the boredom which is its death. English education has in fact assumed this departmental view of religion for many years. We have treated the ordinary subjects of a school curriculum as secular and have supposed that it is possible to construct a scheme of general education which is theologically neutral, religious teaching being added according to taste. This is sheer illusion. It is presumably possible to teach mathematics without any reference to God, but that (like the universality of mathematical definition and the cogency of mathematical proof) is due to the fact that mathematics is a science of Notions and not of Realities. Even here, moreover, the spiritual character of the teacher must exert its influence. In other subjects, above all in the "humane" subjects, the teaching itself is bound to be affected by the teacher's belief or disbelief in God. A man's whole view of history, and therefore his teaching of history, is bound to be coloured by his answer to the question whether the course of man's destiny is or is not providentially guided. All teaching which is not religious is atheistic. If a boy is imbibing in the classroom the belief that mankind travels its long journey unguided and unchecked by God, he will inevitably fail to learn the great lesson of the Old Testament, and will regard the utterances which may come from the pulpit concerning Providence as pious conventionalities. He will probably come to the conclusion that until 66 A.D. or thereabouts God was very active in one part of the earth, but never did much elsewhere and has since then ceased to do anything anywhere; when he is a little older he will come to the conclusion that the tale of God's activities even at that time and place is mythical. He will thus slip into the spiritually minded agnosticism which is the chief enemy of effective faith to-day.

This type is so common that many schoolmasters are bound to be drawn from it. But if we seriously aim at revitalizing the religious life of schools we shall not chiefly fasten on chapel services and hours of religious instruction; our chief aim will be to secure as teachers of the ordinary school subjects men who have a living faith in God. It is preferable that they should be orthodox; but correctness of theological interpretation is far less important than a genuine zeal for God and Christ. If the choice has to be made, a man of fervent faith who interprets his faith heretically is greatly to be preferred to one whose opinions are correct but whose spirit is torpid. A few men who are not convinced will do no harm, provided that they are undergoing mental struggles. Those who are convinced must be ready to tackle the big questions with boys who want to raise these, and must have a reason for their convictions.

(*c*) In a school so staffed the school chapel or the school prayers would not be an appendix but the very centre of all its thought, as it becomes the centre of life generally where Christ is morally supreme. The boys would come with slowly but steadily expanding appreciation to worship the God whose activities in nature and in man their education was unfolding to them; and as their appreciation and reverence deepened they would go back to their studies with a refreshed enthusiasm to learn still more about the God whom they adored and whom, in intelligent adoration, they were beginning to love. Their nascent love of God would show itself in love of truth and beauty; their growing apprehension of truth and beauty would quicken their love of God.

II

(*a*) In Moral Training, as in all other training, we must begin at the stage that has actually been reached by those whom we are trying to help. The ethical code of a schoolboy is really quite simple and only seems complicated or surprising to those who do not begin by taking his standpoint. All moral codes grow out of the social environment to which they apply. The principles of right and wrong are eternal and the distinction between them absolute; but the classification of particular actions may very easily depend on the general social context. A school is primarily a society of boys; the masters are hardly in the full sense members of the society. The ethical code which grows of itself is determined by this fact. There is full recognition of obligation to the society; there is a perfectly correct preference for what helps the society as compared with what helps, or is thought to help, only the individual. This is the moral root of athleticism. The average boy prefers the athlete to the scholar largely because the athlete helps his house or school to win and the scholar is regarded as working only for himself. The other root of athleticism is the dullness of a great deal of school work, to which we shall come in due course.

All the average boy's moral judgments are made from this basis. If a boy cheats in school to escape a punishment, that is fair sport; if he succeeds he gets off, while if he is caught the punishment is increased. He takes his chance, and the other boys have no condemnation. But if a boy cheats in school to gain marks over others, he is condemned strongly. This alone is regarded as really cheating. For the relations between boys and masters are only half realized as moral relations at all. To read off your repetition from a concealed book, if you are clever enough to manage it, is not thought of as cheating the master; it is his business to see that you don't do that sort of thing. But to lie about it if directly challenged is thought mean. So there is a dawning realization of moral relations with the masters, but little more. The whole psychology of the fun of "ragging" masters rests on that fact.

Again, a lie told by a boy to save his own skin is regarded as culpable; a lie told to save some one else's skin is only just so regarded or not at all.

Now all of this (including the athleticism) is perfectly wholesome in itself, provided that it is only a phase through which boys pass and from which they are almost emerged by the time that they are eighteen years old. The master's task is to help them to emerge, and he may fail in either of two ways. He may fail to sympathize with the boy's point of view, and therefore adopt an attitude which the boy cannot understand. Thus, for example, it really is worse to tell a lie to save one's own skin than to lie on behalf of some one else. If the master ignores this and classes offenders of both types together as "little liars," he enlists the boy's conscience in opposition to him; but he can do no good unless he gains its support. Schoolboy morality is just tribal morality; the master's function is to help its evolution into something wider.

The second way in which he may fail is by adopting the schoolboy standard himself and so tending to stereotype it in the minds of his pupils. Masters who everlastingly talk about games are guilty in this way, and the evils of athleticism are mainly to be traced to masters who have themselves grown into manhood with the boy's estimate, not perhaps of the importance, but certainly of the interest of games. But it is not only in this matter that some masters retain the schoolboy standard. They do the same in matters of temper; it is no more excusable for a schoolmaster to show loss of temper than for anyone else, and it always leads to bad discipline and bad teaching. But a masters' Common Room has sometimes in this respect a standard more like that of a fags' study than that of a west-end club. The chief temptation of the schoolmaster is that as he grows less childlike he may become more childish, because for most of his time he is dealing with people whom he can force to conform to his whims.

But the ethical code is not the only thing that claims the understanding and sympathy of those who would help the moral training of schoolboys. There must be some appreciation of the psychology of the boys. All education is primarily concerned with the fashioning of a harmony out of all the disconnected impulses and instincts that are in the soul by nature. These often form themselves first into a number of associated groups which exist for a time side by side with little influence on each other. In such a case there is something very like multiple personality. A different "psychic complex" becomes active when the social atmosphere changes. Thus a boy may behave with every symptom of sincerity in an interview with his House-master, and then behave like a little demon a few hours later. The House-master is tempted to regard him as a humbug; but nine times out of ten that would be unjust and ruinous to all influence for the future. One group of psychic elements naturally responds to the appeal of the House-master, and the response is absolutely sincere; another group responds with equal sincerity to the suggestions of lawless companions. It is appropriate at such times to be stern and to show both disappointment and the difficulty of treating the boy as a rational and responsible being. What is false and ruinous is to suggest that the boy had not meant what he said on the former occasion.

Plato declares that there are inside every man's skin three animals: there is a many-headed Monster, which is Desire; there is a Lion, which is Self-Respect and Self-Assertion—Pride, proper and improper; and there is a Man—usually very small of stature—who is Reason. The problem of education is to win for the Man the mastery over the Lion, and for the Man and the Lion together the mastery over the Monster.

During the Public School period the Monster grows a new head. It is the period of adolescence, and all the previous psychological structure is thrown into confusion by this fact. A new "complex" or group of interests is formed, and it may for a time be dangerous to the whole harmony of the mental and spiritual life; at best it is highly troublesome. There are only two suggestions directly concerning the treatment of it which it is proposed to offer here. One is the importance of realizing that this group of interests may become very strong and break out into wrong conduct, even in characters which are as a whole admirable and delightful. Probably this particular "complex" is more capable of vigorous vitality in isolation from the rest of the constituents of a character than any other. The second suggestion is the importance of imparting knowledge to the boy before his troubles start, not in such a way as to break down shame and reverence, but yet in a way sufficiently "matter-of-fact" to avoid creating any mystified curiosity. Certainly the appeal to fear should not be used. Fear, in the sense of smallness before the infinite and sublime is, as the Bible says, the beginning of wisdom; but fear, in the sense of fright, is always demoralizing. It weakens will-power and unsteadies nerves; but strong will and steady nerves are the chief requisites for success in the effort to control this form of the Monster. It is not to the hideous results of sin but to the beauty of holiness that the mind should be directed. If a boy once realizes the gift of God which men have received in sex, and what is involved in this power to bring children of God into the world, he can understand the responsibility, and will see that jokes on such a topic are wrong, not because the functions of sex are in themselves unclean, but because they are sacred, and to jest about them is like jesting at the Holy Communion.

It is really not difficult to secure that most boys are right in will. There is of course a great deal of interest in the question; physical nature makes that inevitable; but there is little depravity, and failures when they occur are mainly sins of weakness. For these the cure must be found partly in faith and the help that God gives in answer to it, and, so far as regulations or other action by authority can help, in counter-attraction. The real difficulty of the schoolboy's life arises from the fact that he cannot as yet have won in very great measure the strength of purpose which can follow duty for duty's sake with singleness of heart; and the chief duty provided at school, namely, his work, is made distasteful with dreariness.

(*b*) There is much talk in these days about removing all coercion from education: a recent assembly of teachers is reported to have carried a resolution that no subject should be taught except to children who had already expressed a desire to learn it. Such lunacy can only be accounted for as a protest against an educational theory or practice which insists on the grinding of so many gerunds daily without any attempt to enlist human interest. No doubt there has never been a school of which that would be a fair description; and things have been improving rapidly in this respect in recent years. But it is still true that most school work is mechanical; there is in it little room for individual initiative or adventure. This also, unfortunately, becomes increasingly true also of school games, as they are more and more highly organized, more and more efficiently coached. But some scope for individual initiative is necessary to youthful human nature. If it is not forthcoming in the classroom or the playing-field, it will be seized in leisure hours. Some boys take to literature; some to "hobbies" of various kinds. And some, having no decided tastes or inclinations in other directions, will exercise initiative in the "moral" sphere. That part, at least, of the temptation to what boys call "indecency" comes from this is certainly no fancy; it is amply testified fact.

It would be grossly inappropriate that I should take this opportunity of airing my views on the school curriculum. I will take one illustration and make one suggestion. The illustration is the traditional method of handling classics. This great instrument of education has been almost ruined by the University Scholarship Examinations. Hours upon hours are spent in the effort to write prose or verse such as Cicero or Vergil might have written on an off-day. It is too silly. There is quite enough Ciceronian prose in the world already, written by Cicero. No doubt "composition" is in place when it assists appreciation of literary beauty; but, if that is its purpose, only those boys who are really capable of such appreciation should spend much time on it. What is of real value to almost any boy is to know what the ancient Greeks and Romans were really like in their outlook on life, in their treatment of the perennial problems philosophic and political, the causes of their successes and of their failures. For study of these questions real knowledge of the languages is required; and accuracy must be insisted on. But the object is to read with understanding and appreciation, not to reproduce. Of course efforts at reproduction increase appreciation, and so far as time allows they should be included. But the broad outlines are the important element in classical study. What matters about Julius Cæsar is not his syntax, but his generalship and statesmanship; what matters about Vergil is not the cæsura, but the vision of nature, physical, human and divine, to which his poetic writings—the metre of course included—give expression.

The classics could be a fascinating study for any boy with sufficient gift for those languages to be rightly allowed to tackle them. Professor Murray has shown us how to handle such a topic as the Homeric Question in a human way; Professor Zimmern has similarly shown us how to deal with the political life of Athens.

But the classics are (or ought to be) confined to the few. There is probably nothing so good as a classical education for those who surmount with comparative ease the obstacle of the languages; but they are a small minority. Having taken my illustration from what is suitable to that minority, I proceed to my suggestion for the majority: it is that the staple subject of education should be history politically (*πολιτικῶς*) treated. The aim of moral training is to produce citizens willing and able to serve the community. But both the will and, still more, the ability depend on an understanding of the problems which confront the country, such as can only be won by a knowledge of their history. History, for this purpose, should be written and studied with direct reference to present conditions; episodes which had little to do with producing the state of the world to-day should be rapidly passed over, unless they illustrate principles of present-day importance. The boys should be urged to exercise their judgment, especially their moral judgment, on the actions taken, in order that they may form the habit and train the faculty of applying ethical principles to political questions.

Such a course is full of dangers, but it is at least an alternative to the calamity, now commonly accepted as inevitable, of leaving a boy when he finishes school at eighteen wholly void of any knowledge of the world in which he is to take a citizen's part, and of making his primary duty during the most adventurous stage of his life distastefully tedious and pointless. But, if this course be adopted, it will require in the master the sympathy which encourages initiative together with the capacity for humour which alone can enable such sympathy to avoid encouraging conceit and priggishness. The boy must become keen on the subject, and therefore on his own opinion about it; but he must never be allowed to suppose that his opinion is of any importance in itself or of any interest except as marking the present stage of his own development. Sympathy without humour in the master will produce in the pupil eagerness spoilt by conceit; humour without sympathy will possibly quench conceit, but will ruin this, as lack of sympathy in the teacher will ruin any other, educational scheme. But, if both qualities are present, great results are attainable. And the opportunity for following individual interests coupled with the perpetual exercise of moral judgment will at once supply an outlet for nascent personality and stimulate conscience; the solution of the familiar "moral problem" of schools must be found largely through such indirect methods. Great efforts should also be made by lectures and informal talks to stimulate a love of music, painting, and literature, and to show how interest in these matters can be pursued and deepened by reading.

But, whatever the subjects studied, it is important to provide a reasonable amount of unoccupied leisure, especially for senior boys. The development of the curriculum and the organization of games have often had the result of leaving hardly any time unoccupied. But boys will never learn to spend time profitably unless they are allowed to waste it; nor will they ever learn self-control unless they have opportunities of getting into mischief. It is not fanciful to connect the helplessness of most so-called educated people to provide for their own amusement or recreation in times of leisure with the fact that they are so seldom thrown upon their own resources at school.

(*c*) But if the studies of the classroom have a perceptable bearing on the problems of life, and if there is opportunity for self-expression in accordance with the moral precepts inculcated by authority, school life becomes in all its phases a training in citizenship. "Morality" will lose its narrow and repugnant aspect as being concerned only with personal conduct apart from all relation to the big interests of the world; it will turn out to be the science or art of living in the world so as to promote its real welfare, and its personal aspect will no longer be narrow or repugnant, because it will be just the individual application of principles seen to be necessary for the general good.

III

Our schools are supposed to be Christian schools. If they are intellectually as well as socially an initiation into the art of living among one's fellows as a good comrade and a useful citizen, then the standard of judgment actually suggested will be Christian. The teacher of history will indeed trace out the various human motives and forces which guide the course of history, but he will not fail also to suggest that when civilization or social order suffers collapse it is through some failure to conform to the divine truth revealed in Jesus Christ. Our Lord taught His disciples to see in the fall of Jerusalem a coming of the Son of Man in His power; and if we have learnt the lesson we shall see such a coming in the fall of the Roman Empire, in the break up of mediæval Europe, in the French Revolution, in the Great War. Righteousness is vindicated by the disaster that follows upon injustice and selfishness. Only in the universal acceptance of Christian principles is there hope for civilization. That should be the conclusion offered by a Christian school to all boys in it who study history.

But this conclusion means in practice that men must rise from selfishness to unselfishness; and that is exactly what, by themselves, they can never do. Here is the place for teaching about God's act in redeeming the world from sin, which is selfishness, and reconciling it to Himself, who is love; the doctrines of the Incarnation, the Atonement, the Holy Spirit, the Church, the Sacraments, all find their place here as supplying the one essential need of the world that is studied in school hours and for serving which the boys are being trained. Then there will no longer be incredulous surprise when the preacher tells them that the greatest sin they can commit—far greater than any lapse into carnal indulgence—is to choose their profession on any other ground than consideration where they can render most effective service; for this is to withdraw the greater part of their time from the service of God and hand it over to self. The whole education will then naturally lead up to the point where the Christian, in the power of the sacrificial life which he receives that it may be his own, says, "Here we offer and present unto Thee, O Lord, ourselves, our souls and bodies, to be a reasonable, holy, and lively sacrifice unto Thee".

School education cannot complete our training; life itself must do that. But its character will depend upon whether there is or is not any one question with which the school is to be steadily confronting its pupils. A school which is giving a truly Christian moral and religious training will be perpetually putting this question: "Are you prepared in all matters, small or great, private or public, to act as one who believes that the supreme power of the universe is revealed in Jesus Christ?"

PRINTED IN GREAT BRITAIN AT THE UNIVERSITY PRESS, ABERDEEN

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